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NO. 4

APRIL
1933

In the picturesque Back Bay harbor, at Biloxi, Miss., where fishing schooners mingle with power and sailing yachts. From a photograph by A. V. Ragusin

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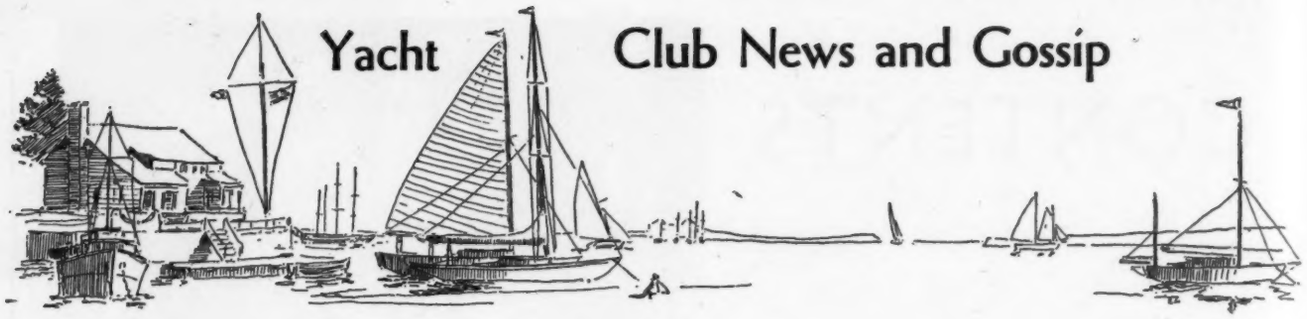

Yacht Club News and Gossip

Vineyard Race

THE Stamford Yacht Club will hold its second annual race from Stamford to Vineyard Sound Lightship and return starting September 1, 1933. Although this race was held over the Fourth of July week-end last year, the Race Committee, guided by answers to a questionnaire submitted to last year's entries, and others, has decided that the Labor Day week-end will be a more convenient date in that it provides a definite three-day holiday each year, and will enable the contestants in the Gibson Island and other distance races to enter this 232-mile event.

The starting time will be set early enough on Friday evening, September 1st, to assure a daylight start, and the race will be open to all sailing yachts in cruising trim measuring not under 30 feet nor over 65 feet over all length, an increase of five feet over the maximum over all length last year.

A new measurement formula is being devised which will take sail area into consideration. Carrying of sails will be limited to about the same as last year, but there will be a definite ban on parachute spinnakers and the like. The carrying of dinghies or life rafts will be optional, but life preservers for each man must be carried on deck.

Of the twenty-two starters in last year's race, all but four dropped out because of the tough going, proving that this course can be stiff enough to attract the ocean racers who like to feel that they can take whatever comes along, "and like it," and it is hoped that many such yachts will participate this year.

Circulars and entry blanks will be ready shortly, and may be secured from Jesse A. B. Smith, Chairman Race Committee, Stamford Yacht Club, Stamford, Conn.

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Albany-New York Race

At a meeting of the trustees of the Middle Atlantic Outboard Association at the Hotel Lexington, New York, on March 8th, Commodore William Rozett announced the appointment of the following Race Committee to handle details of the annual race from Albany to New York on Sunday, May 14: Charles F. Chapman, chairman; Harvey S. Hauptner, Emile Jacoby, George H. Townsend and Charles Alexander. Two vacancies on the Board of Trustees were filled by Commodore Rozett by the appointment of Ted Roberts, William Crawford, Sr., and Sherman S. Crise. A committee on prizes under the chairmanship of Richard R. Blythe was named.

The meeting was held in an atmosphere simmering with excitement, due to the expectation that C. F. Chapman would announce the handicaps on which the race will be run this year for the first time. Mr. Chapman, however, writing from Florida, announced that he was not yet ready to take his life in his hands by revealing the handicaps which he and his committee have worked out and on which the outboards in Classes A, B, C, and F will start at Albany. The feeling at the meeting was that this information would be given out only the night before the race.

The association voted to guarantee cash and trophy prizes for professionals and amateurs to the value of $50 for first in each class, $25 for second, and $15 for third and, if the budget can stand it, an additional prize of $100 for the first driver to finish the long thrash.

Yachting Calendar for 1933

Sail

April 1 — St. Petersburg-Havana Race.
June 24 — Gibson Island Race.
July 8 — Block Island Race, N. Y. A. C.
July 15–22 — Larchmont Race Week.
July 15 — Riverside-Middle Ground Race.
August 5–12 — Marblehead Race Week.
September 1 — Stamford-Vineyard Race.
September 2 — Huntington-Cornfield Auxiliary Race.

Power

May 14 — Albany-New York Marathon.
June 24–25 — Intercollegiate Outboard Regatta.
July 8 — Block Island Race, N. Y. A. C.
August 3–5 — Miles River Regatta.
August 12 — National Sweepstakes, Red Bank, N. J.
September 2 — Huntington-Cornfield Auxiliary Race.
September 2 — Gold Cup Regatta, Detroit.
September 22–24 — National Outboard Championships, Chicago.
September 29–30 — President's Cup, Washington, D. C.

Star Class

August 1–5 — Commodore Corry Cup, Great South Bay.
August 24–31 — International Championships, Long Beach, Cal.
August 28–31 — European Championships, San Sebastian, Spain.
September 4–9 — French Championships, St. Jean de Luss.

Sail Restrictions

While the circulars for the different long distance races on the calendar this season have not all been issued, it is pretty definitely known that restrictions on sails, and spinnakers in particular, will be made in almost every event. Unfortunately, it appears that the restrictions will not be the same in each race, so that it behooves the owner of every boat who contemplates entering a long distance race this year to get the circular of that race as soon as it is ready for distribution, and study the restrictions on sails. Otherwise, he may be in a bit of a jam at the last minute with a spinnaker or Ginny jib which doesn't qualify. Among the races which are understood to be contemplating various restrictions on sails are the following: Gibson Island Race, Fastnet Race, Stamford-Vineyard Race, Riverside-Middle Ground Race, and Huntington-Cornfield Auxiliary Race.

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New Timing Device

The American Power Boat Association has adopted a new timing device for speed boat races and will use it in sanctioned regattas in the East next summer. The device, perfected by Charles F. Chapman, secretary of the A. P. B. A. racing commission, enables one man to operate ten stop watches, and will eliminate possibility of any confusion through inexperienced timers at major regattas. A lever starts all ten watches simultaneously and the watches can be stopped one at a time as the first ten boats cross the finish line.

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Buffalo Canoe Club

Following are the officers of the Buffalo Canoe Club for the coming year: Commodore, Willard H. Bushman; Vice Commodore, Ralph G. Blodgett; Fleet Captain, Theodore H. Booth; Treasurer, Edgar O. Drullard; Secretary, Harold L. Abell.

An active racing season is anticipated in Class R, where competition was decidedly keen last year. A few boats are expected to make the trip to Put-in-Bay this year, and at least six boats are scheduled to attend the L. Y. R. A. meeting on Lake Ontario.

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22-Squares on the Lakes

At the annual meeting of the Great Lakes 22-Square-Metre Association F. Rankin Weisgerber was reëlected President and Herbert Woodall Secretary-Treasurer. Russell J. Pouliot was elected Measurer. An invitation extended by the Association to owners of 22-Square-Metres at Hingham and Marblehead to race on Lake St. Clair this summer has been accepted, and it is hoped that the Royal Swedish Y. C. will send over a boat some time during the summer for a special series.

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Stamford Y. C.

At the annual meeting of the Stamford Y. C., held recently, Walter H. Wheeler, Jr., who has sailed the well known Class R sloop *Cotton Blossom* to many notable victories on Long Island Sound, was elected Commodore. Other officers elected were: Vice Commodore, Nathaniel S. Seeley; Rear Commodore, Vincent C. Arguimbau; Secretary, C. A. Betts, Jr.; Treasurer, D. M. Cruikshank; Chairman Race Committee, Jesse A. B. Smith. The following were appointed delegates to the Y. R. A. of Long Island Sound: J. A. B. Smith, Harry W. Sturgess and W. H. Wheeler, Jr.

★

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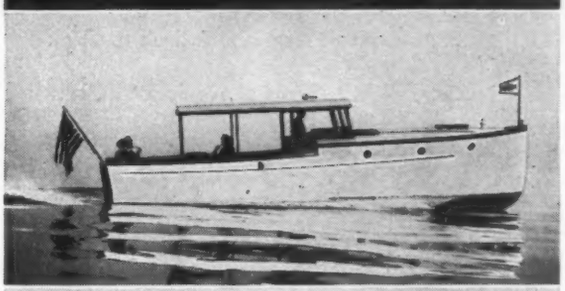

The Sensational new "Thirty-Three." A really big boat at a really low price. Sleeps four. Roomy after-deck. $2975.

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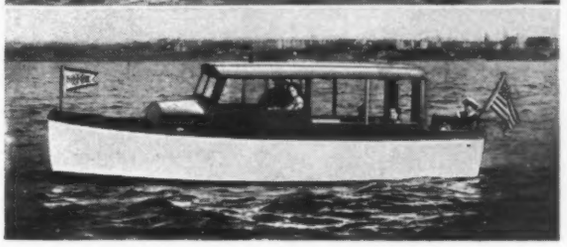

Marinette-24. The deck-cabin makes this the biggest little cruiser afloat. Complete in every detail —for four to live aboard. $2375.

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Yachting Notes and Comment

An Inexpensive Small Class Racer as Proposed by Y. R. A. Committee

THE thanks of the yachting community in this country are due to Mr. Charles Nicholson for bringing to the notice of the Council of the Yacht Racing Association the urgent need of action on their part in regard to the present position of small open class racing. As he pointed out last November in a circular letter to the members of the Association and to the secretaries of the leading yacht clubs, "the demand for some economical type of small open class racing yachts, either one or two classes to fill the gap between the £150 — 14-foot dinghy and the 6-metre, approximating £1,200, has long been obvious, especially because the great majority of yachtsmen who prefer open class racing to one-designs are only able to afford a yacht between these values."

The immediate result of Mr. Nicholson's appeal was the appointment, by the Y. R. A. Council, of a special small class committee under the chairmanship of Sir William Burton, Vice President of the Association. This committee has given the matter careful consideration, and the following rules, as published, which the committee has proposed for a 22-foot waterline class, are the work of this body, both in principle and detail. In coming to the decisions as to details, the committee had the able assistance of the Scottish designer Mr. Alfred Mylne.

Proposed Rules of the Class

1. Length over all	max. 32.5 ft.
2. Length l.w.l.	max. 22.0 ft.
3. Length of overhangs may be as short as desired, but must not exceed 5.5 ft. at bow or stern, the difference between the bow and stern overhangs must not be more than 5 per cent.	
4. Freeboard "*F*"	min. 1.5 ft.
5. Sheer of covering board to be a fair continuous concave curve with a hollow of not less than 6 in.	
6. Bow angle in profile with water line	min. 12.0 deg.
7. Stern angle in profile with water line	min. 11.0 deg.
8. Transom to have for appearance a slope of approximately	min. 0.5 ft.
9. Beam, greatest wherever found	max. 6.5 ft. min. 6.0 ft.
10. Beam round up not less than ¼ in. nor more than ½ in. per foot.	
11. Beam at bow ending of l.w.l. not to exceed ½ greatest beam of boat.	
12. Beam at stern ending of l.w.l. not to exceed ¾ greatest beam of boat.	
13. Line of outer edge of covering board on deck plan to be carried in a fair line to the usual fine ending on stem.	
14. Skin girth at bow ending of l.w.l., covering board to covering board, measured around the stem face, vertically, must not exceed the shortest distance between these points by more than	Shortest distance x 1.05 ft.
15. Ditto, ditto, ditto at stern	Shortest distance x 1.13 ft.
16. Draft	max. 4.0 ft.
17. Underside of fin keel must be straight for a length of	min. 4.5 ft.
18. Underside of fin keel may be raised above level at fore end (but must still be straight), the straight must extend at least to mid-length	max. 0.25 ft.
19. Solid wood fin keel, length at 2.25 ft. level below l.w.l.	min. 9.0 ft.
20. Solid wood fin keel must not exceed in thickness	max. 0.58 ft.
21. Solid wood fin keel must not be bulbed or flared towards bottom.	
22. Rudder to be hung on back of fin.	
23. Displacement	min. 1.75 tons
24. Surface of hull, except for angles where fin joins hull, and sheer, and where back of fin meets rudder	no hollows whatever
25. Area of deck openings	max. 24.5 sq. ft.
26. Waterways width	min. 1.25 ft.
27. Sail area	max. 268 sq. ft.
28. Height of mast above deck to black band	max. 35 ft.
29. Height of boom above deck *not less than	3.0 ft.
30. Height of perpendicular of fore triangle	max. 26 ft.
31. Genoa jib clew not to extend more than 3 ft. 6 in. abaft fore side of mast and not below the boom level.	
32. Spinnaker sides and breadth of, limited to (distances to be fixed).	
33. Number of sails allowed whilst racing: 1 mainsail; Genoa and 2 other jibs; 1 spinnaker.	
34. Crew: Maximum number on board during a race, 3, of whom one may be a paid hand.	

Note 1. Altered Line of Flotation

Penalty in case of a yacht being found to float more than the class limit of 22 feet

When measured subsequent to the first occasion, and found through soakage and alteration of shape to exceed the l.w.l. length of 22 feet, the ballast may be reduced to the extent of the surplus of displacement. Should there be no surplus displacement for correcting purposes, the length l.w.l. may be exceeded by not more than 6 in. and the sail reduced by the formula $\frac{L + \sqrt{S}}{2}$ = Rating, the rating being taken as 19.2 feet.

But the displacement must not be less than rule. Draft and beam increase, freeboard deductions beyond the limits consequent of floating deep, and altered shape, will be added to *L*.

When reduction to *S* is necessary, it must be taken off the mast height.

N.B. In event of a new boat exceeding 22 feet in her first season *the excess will be doubled.*

Note 2

The sail area to be measured according to Y. R. A. Rules, except that the length of boom will be taken as diagonal of mainsail. The fore triangle to be taken as 85 per cent of its area. The mast may be solid or hollow but must be straight and, if hollow, must be solid 1 foot above deck to step.

Boom must not have greater sectional dimensions than will pass through circle of maximum mast diameter.

No rotating masts, double luffed mainsails, etc., to be allowed.

No aluminum or its alloys to be used on hulls or spars.

(*Continued on page 98*)

*(Probably "not more than" is intended.)

Ready, Aye Ready!

EMERGENCY finds the U. S. Coast Guard personnel ready, always. Rough weather or smooth, deep water or shoal—daily these men face high adventure, demanding all of their rare skill and courage. What yarns they could spin, yarns of the great salt sea, as vivid as any ever told by the old time canvas-fighting, line-hauling salt of square rigger days. The coastguardsman's work is strenuous work, calling for men who are "Ready, aye ready" when the small boat is ordered off. Calling, too, for equipment that can be depended upon to get them "out there" where duty calls. That is why the U. S. Coast Guard is provided with the finest ships of their class in the world, as exemplified by the new 165-foot patrol cutter *Galatea*, illustrated below, and her sister ship *Argo*. These vessels, powered with advanced-type Winton-Diesel Engines, match the coastguardsman's "Ready, aye ready" with supremely dependable power, meeting every demand of the severest marine service. You will be glad to have Winton Engines in your ship. Their superb qualities have been proved in hundreds of thousands of sea miles.

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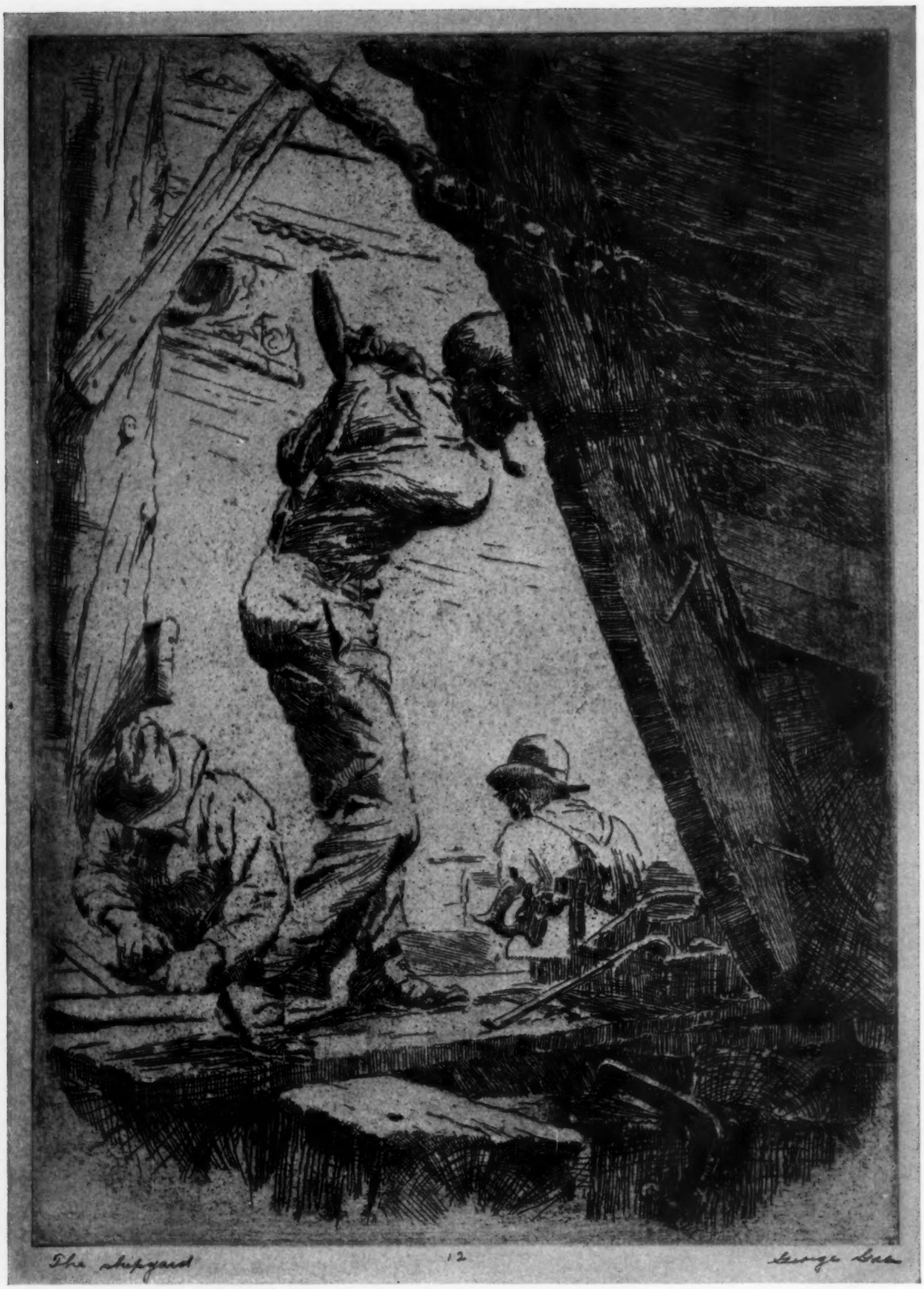


The Shipyard

From an etching by George Gale

YACHTING

Volume LIII APRIL + 1933 Number IV

It was an uphill struggle to get above the rapids with the native craft in which the expedition was carried forward beyond the head of navigation for the power cruiser

A Motor Cruiser on the Amazon

By DESMOND HOLDRIDGE

SEVERAL expeditions to the Amazon Basin during which I had availed myself of a "catch as catch can" transportation system, ranging from big river steamers on the Amazon itself to dugout canoes in the rapids of the upper streams, convinced me that anyone who had a great deal of ground to cover in Amazonia should have a boat of his own. The boat would be power driven, of course. She should have comfortable accommodations for two or three white men and room for several natives. She had to be very shallow in draft and she had to have a power plant capable of driving her against fast currents and, on occasion, of allowing her to mount through the rapids. Also, because I had contemplated a certain amount of travel about the mouth of the Amazon, she had to be seaworthy.

Of all the power cruiser types, the sea skiff seemed best to fulfill the rather varied list of requirements. The first sea skiff I had ever seen was at Hebron, North Labrador — Mr. George Williams' 34-foot *Nanu*. She nosed in out of a snorting northwest gale, and when some of us went aboard, Williams remarked, "We came in to do some cooking — she was bouncing around so much it was rather hard to keep pots on the stove." Never a word about her having any difficulty in handling the really bad sea running outside. I was impressed. And even more so when I heard that she drew only 2.5 feet of water and was fast and comfortable.

So when Emerson Smith and the writer left New York for a year and a half of collecting in the Amazon Valley for the Brooklyn Museum, we took with us a 32-foot sea skiff powered with a 125 h.p. Kermath. She sat on the deck of the freighter for fourteen days and on our arrival in Para she was unceremoniously dumped into the yellow waters of the Para River. We followed on a Jacob's ladder, choked her, and gave the starting button a kick. A lazy whine ensued, but no explosion. We fiddled a bit and decided that the battery was low. The remedy was simple. We would have a man come down and get the battery. He would charge it and then we would be all right again.

We walked ashore, arranged for a mechanic and went to a hotel. It was pleasant to be back in Para after more than a year's absence. The boat had to be cleared at the customs, so we were in no great hurry. But we did go down to see whether the mechanic had taken the battery away. He had not. He was fat, and mechanics should not be fat. He was playing with various gadgets when he should have played only with the battery. He had the wires pulled off the distributor head, and most certainly that was wrong. We nearly had apoplexy. Here was a splendid engine, jewel-like in its perfection, and this brute of a mechanic insisted on pulling it apart. We had a presentiment of future sorrow.

When the battery was charged and put in place, the motor refused point-blank to run. Could anything be more appalling than a motor being turned over by a starter and showing not the slightest sign of life? The mechanic swore; the engine was dirty, he said, too dirty

"Rio Mar," a modern 32-foot power cruiser, solved the expedition's transportation problem in the wilds of the Amazon Valley. Below. Crocodiles infest the waters of the Amazon and provide good sport for the lariat thrower, as this photo graph indicates

to run. We said that we had run her twenty miles to the steamer and found her in perfect condition. How could fourteen days of rest have dirtied her to the extent that she would no longer work? But we were so utterly ignorant of motors that our fat mechanic managed to make us believe it.

Off with the distributor head, off with the carburetor, off with the cylinder head. Down aboard with two high-yellow assistants. For four days they hammered and beat that poor motor; then they announced it ready to run. We experienced a feeling of relief.

Our first excursion was to be to Marajo Island for excavation of some of the ancient burial mounds that abound there. Marajo is a huge island, bigger than all Switzerland, which blocks the mouth of the Amazon. From Para you simply steer out of the river; on arriving in the Bahia do Marajo, you steer for Soure, being careful not to bring up on either of two extensive sandbanks in mid-bay. From Soure, we would have eighteen or twenty miles to go up a tidal river to the cattle ranch from which we expected to operate.

The river was not on the chart, so a pilot — pilots being very cheap — was indicated. A pilot, Leonardo de Something-or-other, was found. Then, because we were proud of our boat, we invited three people who were going to Marajo to make the trip with us. One, Curt Hell, was a German with cattle interests on the island. One was an Englishman, a collector of spiders or butterflies, and the third was Padre Moss, the tolerant shepherd of the English flock at Para. There was also a negro who seemed to be the butterfly man's interpreter.

At ten o'clock, one morning, we put off. Now the action takes place in the dry season. The ebb tide was accompanying the river current at six or seven knots. We knew, in a vague way, that in the dry season the trade wind is fresh to strong; blowing against outflowing water, it kicks up a very steep, heavy sea that is trying for any craft, but particularly trying for a small one.

We whizzed down the Para River, making twenty knots with the help of the tide. The boat's bow rose from the water, the motor hummed, the sea breeze sang about the pilot house, and we all had a drink. Life was definitely good.

The red roofs of Para disappeared beyond a bend; suddenly the river ended and we were starting out into the broad bay. A fretful little chop began, slapped at our bows, and I noted that the slaps became more impudent with the passing moments. Leonardo was mumbling to himself, and finally his mumbling took definite shape. The *Rio Mar*, as we had named the boat, was too small to cross the Bahia in the afternoon when the wind is strongest. The five Nordics turned and sneered as one man, and we proceeded.

Not long after, the pleasant hum of the engine was interrupted at intervals by an abrupt miss. Nothing very alarming — just an occasional miss. (Dirt in the gasoline, you told yourself.) But before half an hour had gone by, the sea was well on the bumpy side, and the engine was missing frequently. We hauled into Pinheiro, a little bay port, and under the shelter of a longish dock we proceeded to examine the motor — instruction book in one hand, screw driver in the other.

Outside the breeze had been fast and cool, but now, hanging over the heated motor with the equatorial sun working on the pilot house, things became unpleasant. Three of us, who fancied ourselves as mechanics, stripped to the waist. We removed spark plugs, stared at them accusingly, shook wires, wiped up oil spots and got very dirty — and angry. The Padre began to perspire and removed his shirt; the butterfly man followed suit. Only the two Brazilians attempted to maintain a state approaching neatness.

The Padre removed a flask from his pocket, and motioning to the dripping mechanics said, "Gentlemen, I suggest a libation."

The flask contained straight whiskey and we pulled at it thirstily, mentally voting the Padre a fine fellow. But the whiskey made us even hotter, and our annoyance increased momentarily. The engine, we argued, is fundamentally sound. It's getting gas, oil, water and a spark; it can't help but go.

So we pushed the starter and were rewarded by a splendid roar. Off to sea with us again! It was two o'clock and the wind was strong. When we cleared the

point of land that shielded Pinheiro, we began to get the sea. It was incredibly steep and had a villainous wallop. *Rio Mar* pounded badly and by the time we were in mid-bay, with no land in sight — the bay is really large — the pounding was something unheard of — and the engine began to miss on two cylinders.

Now, this was bad. If the engine of a motor craft stops in a seaway, she at once has cause to be sorry she is not a sailing vessel. With this in mind, I went below to break out the sea anchor and had the remarkable experience of feeling the bow drop away from under me so rapidly that the overhead came down and whacked me on the head. The crash as the bow struck made it seem certain that it was about to part company with the rest of the boat.

There must be a remarkable amount of longitudinal strength inherent in the clinker type of construction, for the boat did not break in half, but continued to take the worst kind of beating imaginable. The seas, which were dead ahead, of course, monotonously climbed over the bow, washed aft, broke against the pilot house, and went over it to run off astern. What with the seas ahead, the din and hiccoughing of the engine, the passage was anything but pleasant. But there was no doubt whatsoever about *Rio Mar's* seaworthiness. She could take it.

Late in the afternoon, still bucking like a broncho, *Rio Mar* came out of the tumultous Bahia and entered Igarapé Grande. A short distance inside was the pretty little town of Soure. A goodly section of the citizenry, which had been standing around thinking, rushed down to the dock, where we discharged the Padre, the butterfly man and his interpreter. The citizens said we had picked a hell of a time to cross — they didn't see how we made it. Others surmised that the engine was a 24-cylinder and electric. Still others claimed radio power from a central station in Berlin, London, New York, or wherever we had come from.

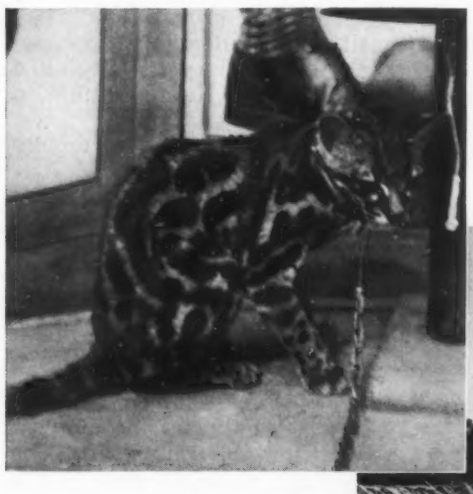
We proceeded up Igarapé Grande and the change was delightful. We could sit in the forward cockpit and watch the reflections of the sunset and the palms on the quiet waters, the flocks of parrots screaming overhead and the occasional sight of one of the great cattle estates, for the seaward half of Marajo is not jungle, but open grassy plain. But the motor was still misbehaving and we hadn't the faintest idea why.

At night we arrived at the big ranch, Fazenda Gavinho, the property of Luciano Beider, a Swiss who has long made his residence in Brazil. Luciano, hearing of our mechanical difficulties, suggested a good man, but we still had confidence in our own skill. Aided by the instruction book, we descended on the motor with a crow bar, and with the help of that useful implement tore off the cylinder head. I haven't the foggiest idea what we expected to find, but it was an interesting experience. A little carbon was found, and we conscientiously removed it. Jabbing away merrily with various tools, we succeeded in ruining the gasket, though we didn't know it until we had reassembled the mess. We started the engine, only to have it stop dead almost at once, the cylinders full of water.

We surrendered. We had to have a competent mechanic and we had to go to Para to have a new gasket made. Luciano had a schooner load of cattle scheduled to depart for Para, and having left Smith to dig in a nearby mound, I boarded the schooner — the perfectly incredible schooner.

All over Amazonia the form of canoe is used that has a flat bow and stern. This design is followed because it makes construction easier. But imagine an 80-ton schooner with a flat bow and a flat stern! Outraged, I went to the captain at once and demanded an explanation. He scratched his head and said that he didn't know, but he thought it was all right.

But the hull is the least peculiar part of a Marajo schooner. While the foremast is practically plumb, the mainmast has a marked rake. The foregaff is long — so long that one man has to tend the forepeak halliards whenever coming about, since the gaff cannot swing under the spring stay. Furthermore, if the peak is lowered too much, there will be trouble again, since the gaff is too long to pass between the masts. The rigging is flimsy and rarely new, the sails are orange or blue or white, and altogether the Marajo sailing craft give the impression that one has dropped into the Orient.



"Tiquie," the ship's mascot, a half-grown ocelot. The reproduction at the right shows "Rio Mar" at a pier on Marajo Island, in the lower Amazon

The Para-bound schooner loaded her cattle, and the tide being favorable we descended the river and stood offshore. Night soon fell, and we were running wing and wing with the fast wind. The cattle in the hold bellowed and stamped, the gaff jaws creaked, and a huge full moon shone down on us. Astern, the wake was a trail of fire. I lay down on deck and fell asleep; when I awoke, we were in Para.

In Para a new gasket was made. A young Brazilian whom I met proved to me, by means of figures on the back of an envelope, that it would be cheaper to hire him as a mechanic for a month or two than to take the job to a regular establishment. It looked well on an envelope, so we had another cup of sweet black Brazilian coffee, and when I returned to Marajo he went along.

When we arrived at Soure, Luciano, the new mechanic and I found that we would have to do the twenty miles to the ranch in a canoe. So a canoe with three paddlers was found, and having loaded our baggage in it, we were off. Now, at several points in the Igarapé Grande, the stream is wide and when a gust of wind strikes it, a brisk little chop results, and to our canoe, with two inches of freeboard, a brisk little chop would be disastrous. For an hour or so we did very nicely, Luciano, in an offhand way, cursing the paddlers to greater effort from time to time. Then we reached a point where the river was rough. Simple — we would keep under the lee of the weather bank and pass the spot in safety. Luciano and I went on smoking and reading newspapers, paying little attention to the maneuver. But the maneuver was fumbled. We stayed too far from shore — went broadside to the chop — and capsized.

At once there was a great furore. One of the paddlers announced that he couldn't swim, for he was not a canoe man, but a cowboy. Baggage went drifting around while Luciano and I, having told the cowboy we hoped that he would drown, took to rescuing it. But when all were ashore in the mangrove swamp, it became obvious that most of the impedimenta was heavier than water; it was now reposing on the bottom, ten fathoms down. And among those objects was the new gasket.

A remarkable incident, I thought, was that a Leica camera had been in my shirt pocket during the proceedings, and while it had been under water most of the time, it never leaked a bit. The roll of film in it, when developed, showed no sign of damage. But the gasket was gone, and the mechanic had to be sent back to Para for another one.

Meanwhile, Smith and I, riding from one archaeological site to another, were seeing a lot of Marajo. In a way, it is one of the strangest cattle countries in the world. Half a million head of cattle roamed the wide plains, and they thrived in spite of the fact that everything seemed against them. The first glance at almost any Marajo stream usually discovers half a dozen crocodiles, and in the lakes, which are low in the dry seasons, scores are to be seen, packed in like people in a subway rush. Likewise, the ferocious little piranha fish, which bites off cowboy's toes and cow's teats, is to be found almost everywhere. Electric eels and fish are common. Jaguars follow the herds. Poisonous snakes, jararaca, rattle snakes, surucucú and perfectly enormous boas are to be found with no great trouble. Perhaps the oddest Marajo dweller is the big African water buffalo. A rancher imported a number of them some time during the last century, thinking them to be very different from what they are. Once convinced of his mistake, or having forgotten why he wanted them, the rancher set them free, and today a dangerous breed of African big game wanders about Marajo.

The island is so close to sea level that when the annual floods come most of it goes under water, and in the "winter" — as the inhabitants quaintly term the rainy season — our *Rio Mar* could very nicely have made sixteen knots over the very places which we covered on horses.

After a week or two in the interior I was smitten with a toothache and rode out to Gavinho with the idea of getting to Soure to see a veterinary. The mechanic had been sent back to Para for a new gasket. He had had plenty of time to return and put the engine in order. Thought I — I shall go to Soure in the *Rio Mar*.

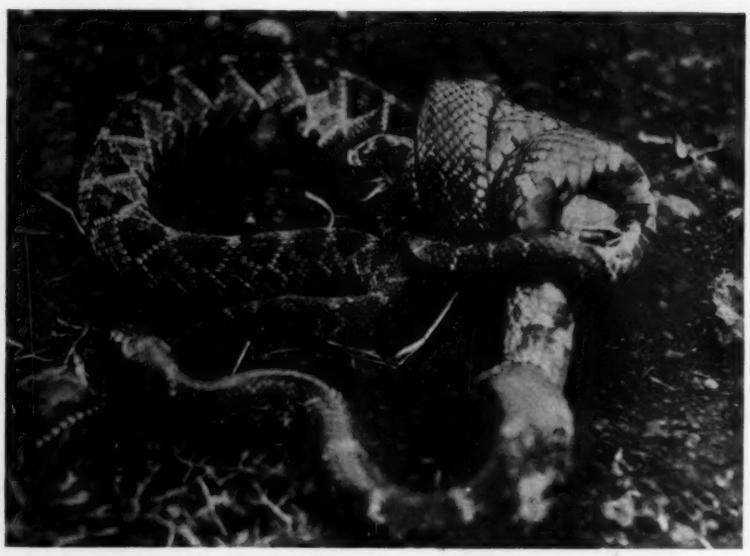
Arriving at Gavinho I at once perceived two sweating figures in the cockpit of the *Rio Mar* which lay gleaming in the blast of tropical sunshine. A clank of steel on steel, the rasp of file on agonized metal, the slither of knives over carbon deposits, mixed with choice Portuguese oaths, rose in the warm air. Filled with foreboding, I boarded and found our mechanic, and with him a pal who seemed to be helping. The engine had been torn to pieces and completely dismembered. It lay about the cockpit in discouraged heaps.

"It's too dirty to run! It's too dirty to run! It's too dirty to run!" shrieked the mechanics, as hot, violent remarks came to my trembling, gringo lips. They shrieked reassuringly until a pall of utter gray hopelessness came over me and I slunk off to the veterinary's in a canoe. Never again would that lovely Kermath function — of that I was sure.

Like most Americans, I was accustomed to motors from childhood, but rarely had I seen one torn apart. That it could ever be restored to its original station in life, I felt doubtful. But I was wrong. When I returned from Soure, the engine was reassembled and the only fault I could possibly find was that it wouldn't run. But I am boring you.

Let it be said, rather, that we finally got the engine running — after a fashion — traversed the Bahia with a load of archaeological loot, and arrived in Para, where some of the men of the Pan-American

(*Continued on page 78*)



One of the shipmates, a kingsnake, making a meal of a rattler before being taken aboard the boat with another kingsnake and a boa constrictor

Heavy weather 'round the Horn

"All Ships Is the Same"

By A. J. VILLIERS

"ALL ships is the same," says the Mate. He ought to know. He has been in enough of them — *Ancon, Levuka, Vidylia, Plus,* all barks; *Thomasina, Kensington,* full-rigged ships; *Professor Koch,* ocean wanderer; schooners and barkentines, and now here in this giantess *Parma.*

It was the blowing out of this same *Parma's* fores'l for the third time in a month that prompted his philosophical utterance. "All ships is the same — always giving trouble."

It is so. If you have a little sail boat for pleasure, six times in seven when you want to execute some maneuver in a hurry something will go wrong; lowering away the gaff the jaws will jamb or the sail won't come down, or something else misbehaves and spoils the operation. A deep sea sailing ship is only a little sail boat grown up, with an infinitely increased capacity for making trouble.

The Mate is bluff-faced with red hair and a marvelous knowledge of boy psychology — a knowledge which makes for no popularity for'ard on board the *Parma.* He has a habit of saying what he thinks as soon as he thinks it, with appropriate adjectives; he wastes no time in the instantaneous condemnation of work ill done; his job is getting the maximum amount of work done with a minimum crew and the minimum crew's job is the avoidance of as much as possible. The Mate fell down the hold of the *Professor Koch* once and an arm broken then was not properly mended; between his two hands he has about seven fingers. The others have been lost in blocks aboard these various vessels.

He is a capable and extremely competent officer who, at the age of forty-five, has been ten years in command himself. So he knows the ships of sails from the inside out. He says he fails utterly to see any "romance" in them. Romance? Hell! Lots of damned hard work, and sea in the cabin, and cold around the Horn, and frequent long absences from all the cheer of the land. . . .

And gear carrying away, sails blowing out, always something going wrong.

+ + +

The small bark *Professor Koch,* riding high in light ballast, staggered along the rolling road that leads by way of the Roaring Forties from Rio to the Knobbies where the Hunter River flows. She was bound to New South Wales to load coal for some hot anchorage in Peru. The passage to Rio with Bristol Channel coal had not been a good one and the freight was poor, which perhaps explained why the bark had cleared the Brazilian port with so little ballast. She had too little — much, much too little — and as she stumbled on she lurched uncertainly with a sickening motion that boded ill. Ballast costs good money, has to be loaded in and discharged again, bought in the loading port and, very often, it is necessary to pay for its disposal in the port of discharge as well. The *Professor Koch's* Old Man was a hard nut that voyage, bent on economy; he went round the deck picking up old nails and stray fowl feathers, was never happy unless the crew complained about the food (for which they had cause enough) at least twice a week, and by way of relaxation was accustomed to pull hairs out of his head enough to make a paint brush — he was too mean to buy one — with the aid of which and the ship's paint he painted the loveliest sunsets.

In Rio he took 400 tons ballast too little, and his bark, running the Easting down, fell over from side to side as if the masts would come crashing out of her, or she would take a wild swing and roll right around.

There were occasions when the bluff-faced Second Mate, red of countenance on the exposed poop, half thought that she *had* rolled right over and come up

again on the other side, so difficult was it to keep his balance. The Old Man, well aware of the dangerously cranky nature of his charge, spent most of the voyage in his saloon and made amends with whatever conscience he might have had by keeping the ship under lower tops'ls. If ever he set an upper tops'l he thought he was cracking on.

By nights, when he slept, his mates were accustomed to give the bark more sail. They were hungry and wanted to come to Newcastle with a passage of less than a hundred days, seeing that there were scanty provisions on board for only about two months. . . .

So the bark had lurched and staggered on to the longitude of Tristan da Cunha, where the glass dropped ominously and the sea rose, and the *Professor Koch* began to run on with the west wind crying in her rigging and the lower tops'ls that she had been carrying were canvas enough. She was so light that she steered badly, having but a third of the rudder in the water; when she dipped for'ard nothing of her rudder was in the sea at all. The Second Mate had the fore-topmast stays'l and the inner jib set for'ard, to keep her head up and hold her before the sea.

The Old Man stamped up on deck, and found her so. Inner jib set? Who was thus carrying unnecessary sail?

"Take in that jib!" he barked to his Second Mate.

In vain the Second Mate — headstrong then, for all his youth — expostulated with the figure of command; in vain he pointed out that the inner jib was making it possible to steer the ship, and without that she would broach-to. He would not take in the sail — he refused orders — and he was sent to his cabin in disgrace.

Then the Mate took the sail in as the night came down.

It was blowing full storm then, with the spray and the spume flying high over the bark's main and fore yards; she staggered in the boiling sea like a drunken ship looking for a lamp-post to cling to. Finding none, she lurched furiously from side to side; she yawed, and threw her quarters into the advancing seas; she lifted and swayed and contorted herself like a barrel on the water. At the wheel two of her crew, relieved every hour, struggled furiously with the helm — hard up and hard down, and the bark's head yawing all over the ocean. She swung three points this way and three points that; there was no steadying her.

In his cabin the Second Mate waited patiently for her to broach-to. And this she most certainly did, within two hours of the hauling down of the inner jib.

In vain the helmsmen toiled, in vain the Mate cursed, in vain the stolid, unconcerned Old Man paced up and down the poop, falsely certain that the bark was "safe" so long as he remained on deck. The wind screamed and the sea steadily mounted; and then there came a mighty sea roaring out of the murk astern that, catching the bark as she yawed, swung her counter right 'round and sent her pitching and trembling in the trough of the sea!

Broached-to! My God!

The *Professor Koch* was done for, save for a miracle. It did not look as if any miracles were to happen. With a thundering roar in the hold, the ballast lashings carried away and the ballast fell over on to the lee side while the bark's course and tops'l yardarms fell into the water. She was on her beam ends, broached-to in a Roaring Forties gale. . . .

The Second Mate, flung right through his cabin door when the bark fell over, made his way on deck as quickly as he could. Here in the pitch blackness of the night nothing could be seen and nothing done. He saw the other officers and all hands, except four who could not be found, huddled there waiting for the end. A man of indomitable spirit, he rallied them, and with some volunteers fought his way along the main deck to let the tops'l sheets go. The foretops'l had gone; the main chain sheets he smashed with a sledge hammer, and the sail almost instantly took in ribbons to the wind.

They waited for the morning, and when the morning came were surprised to find the bark still afloat and themselves still alive. She lay over, a sorry wreck, with her yardarms in the water and her decks immersed half over the hatches; down in the hold the ballast could be heard rumbling. The Second Mate led the way down to stow it again, and get the bark on an even keel.

First they had to relash the wooden bulkheads behind which the ballast had been stowed; this was a work of tremendous difficulty in view of the fact that the wooden boards were lost beneath the loosened ballast. They fished them out and began to shovel the ballast back, after hours — one shovel back and two fell a-lee again.

But they struggled on; the weather bettered, and the bark gradually rose; and after four days, with her inner jib set and two new tops'ls, the *Professor Koch* sailed on.

The Second Mate was not mentioned in the Log, and he spent no more deck watches in disgrace in his cabin.

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Twenty years later the big four-masted bark *Parma*, seventeen days out from a grain port on Spencer Gulf bound to the Channel for orders, ran on bravely before a westerly storm, rushing on to get Easting on the road towards Cape Horn. Deep-laden, she wallowed drunkenly and threw her main deck time and again beneath the water; taut lifelines of wire stretched fore and aft were insufficient to make the maelstrom of the open deck safe for the boy-crew, and big nets of heavy rope had been stretched from main to mizzen rigging.

All that day and all the preceding day it had been blowing heavily out of the west; yet the ship lurched and drove on, making eleven and twelve knots with a foaming wake astern and the green sea coming over the length of her. It was bad weather; but she had come that way for such. It was a bitter down-south gale (she was south of 53), but that was what she wanted. She had to be driven, with her powerful masts and yards and her big hull streaming wet in the sea, to come quickly to the Horn. She had come from a crack German nitrate line and was making her first voyage in the Australian trade, a ship with a big reputation in new hands.

The storm looked bad. The glass was low, lower than anyone had seen it before, and Mate and Master were well used to that road. What should they do? Drive the ship on before a waning storm, or shorten down and wait for the increasing breeze to blow itself out? They did not know. Who could say whether that mighty gale was waxing or waning!

Day long the ship drove on, under three lower tops'ls, full main upper tops'l and full fores'l — a lot of canvas for a Cape Horn storm. She was very heavy in the water with more than 5,000 tons of grain in her hold; she ran badly and shipped seas heavily. Yet she did not appear to be in any danger, and Second Mate relieved Mate to find the ship still scudding on, and the Old Man, skilled and trustworthy master-mariner, in the lee of the weather cloth watching her go.

Would he shorten down? Time and again he half-

(*Continued on page 76*)

Looking west in Saglek Bay, a huge, deep inlet

A Northern Labrador Cruise

Part II—Seaplane Cove Becomes the Scene of Surveying and Charting Operations

By DR. ALEXANDER FORBES

THERE were still several hours of daylight on our arrival in Hebron, so Crowley tuned up the Fairchild for a look at the fiord, which extends inland ten or twelve miles. Odell, Brownell and I went up with Crowley and explored the whole length of the fiord, taking over thirty pictures and finding five rivers which empty into the head of the fiord — none of them shown on the maps or known to the Moravian people at Hebron.

In the harbor at Hebron was the *Jahala*, with Desmond Holdridge and David Putnam on board, bound for Iceland on an archeological expedition. With them we attended an Eskimo dance in the settlement, and shortly after midnight, when the bright afterglow was due north, Holdridge came aboard to check his chronometer with ours. He then weighed anchor and headed for Greenland.

July 19th was another glorious day, with a bright, sunny sky and a deep blue sea. We started at 8:40 on the last leg of our north-bound journey. With the wind abeam and all sail set, we glided easily along the coast, which grew more mountainous as we approached the Torngat range. Human habitations are scarce north of Hopedale, and from Cape Mugford north to Cape Chidley is a barren wilderness except for Hebron. North of Hebron no human life is seen save a few Eskimos who come from Port Burwell, on Ungava Bay, to hunt. So now we were entering a region as lonely and desolate and as austere in its grandeur as any that borders the Atlantic Ocean.

About two o'clock we reached Cape Uivuk, the southern entrance to Saglek Bay, a huge, deep inlet, 16 miles across the mouth. At the north shore of the inlet the Torngat Mountains begin. Passing Mt. Blow-me-down, we came to a chaotic array of jagged peaks. The sailing was perfect, with a smooth sea and just enough wind on the beam to give us a speed of five knots. But now the wind dropped and we must use the engine if we were to reach Ramah Bay, which offered the only assured anchorage, before dark. The sun set at nine o'clock, and a few minutes later we rounded the Muzzle and headed west into Ramah Bay, a majestic fiord the entrance of which was rendered spectacular by the sunset glow.

Bright as was the sky in the northwest, beneath the mountains the shadows were dark, and we failed to see the abandoned Moravian Mission building, which would have given us the clue to our desired anchorage. We guessed at it and sounded along the shore, only to find the bottom sloping precipitously from two to eighteen fathoms in the space of a few yards. We decided to go to the head of the fiord, where at the mouth of the entering stream there would be a shelving bottom. In the twilight the head of the fiord appeared to be at least a mile away, but to play safe we reduced speed after a quarter of a mile and were about to sound again when the bow fetched up on the sandy bottom. The twilight had deceived us; the flat river bottom close aboard had appeared to be a sheet of water. It is a cardinal blunder to proceed, even slowly, at top high tide in strange waters, when it is too dark for the masthead lookout to see bottom, and that is just what we had done. Full speed astern did not help, nor did the big anchor, led

Between Ramah Bay and Mt. Blow-me-down the Torngat Mountains present a chaotic array of jagged peaks. Ramah Bay is a fiord of majestic appearance

Eskimos with their kayaks at Ryan's Bay

out astern with the dory, for the windlass only dragged it in through the mud and sand. After struggling with the situation for two hours, we all turned in about 1:30 A.M. There were five fathoms under the stern, and consequently there was no uncomfortable list on the falling tide. But there was more anxiety than at Indian Harbor, for we had gone on at high tide and we were far from help.

In the morning we placed both anchors well out astern, moved all weight from the forepeak to the stern, made a catamaran of the two dories by lashing some of the dark-room timbers across them, and secured them at the bow so that the stem just above the waterline would rest on the timbers as the tide rose. This combination of operations enabled us to pull the *Ramah* off at 10:00 A.M., an hour and a half before high tide.

More than two hours' work ensued, getting the anchors aboard and stowing things, before we could resume our journey northward. And now our fine weather ended, for at the mouth of the fiord we met our first fog since Gready Island. From the sketch maps and the descriptions of Grenfell and Coleman, we had more detailed information about the coast from Ramah to Nachvak than about any other region north of Hebron. Assured that we should find a bold shore to follow as far as Nachvak, we went ahead. Presently we rounded a steep headland which we took for Gulch Cape, and hugged the shore north of it at the limit of visibility — about 300 yards. When the shore trended west (magnetic) instead of N.N.W., as our maps led us to expect, we laid it to the notorious inaccuracy of all maps of this coast. But when we saw land a mile away on the starboard hand, the truth dawned on us that we had never reached Gulch Cape, but were in Rowsell Harbor, south of it. It was now four o'clock so we anchored for the night.

The next day, July 21st, was a memorable day indeed. In the morning the clouds had lifted enough to reveal the mountains around us. To seaward there was a layer of low clouds close to the water, but we could see under it. With hopes of decent visibility, we started for our base, now only 40 miles away. At the harbor mouth we ran into fog, but Gulch Cape, a bold headland close at hand, offered no difficulty. We approached it, still undecided whether to push on through a dense fog into Seven Islands Bay and try to grope our way through its uncharted waters into Kangalaksiorvik and find our cove, or to follow the bold shore north of Gulch Cape into Nachvak Fiord and await better weather. It will be seen from the sketch map Fig. A (page 36) that, just northwest of Cape White Handkerchief, there is a discrepancy of five miles between Grenfell's map and the Admiralty chart as to the location of the shore. Such uncertainties were decidedly uninviting in foggy weather. But to put in to Nachvak meant loss of precious time, and a digression of several miles, and that meant an inroad into our dwindling fuel, for there was no wind. Should we try to reach our base, our best plan was to go straight across from cape to cape, rather than follow the shore north of Nachvak, where reefs of doubtful position were reported.

Fortunately, Miller, on his reconnaissance, had taken pictures from the air, showing clearly the disposition of bays and islands at the entrance to Kangalaksiorvik. He also reported deep water close to the shore. We later learned that three bad shoals, which he had overlooked, lay near our course. But in ignorance of this, we decided, as we reached Gulch Cape, to press on to our base, since we had the negatives, developed at Hebron, to guide us. Without these pictures we should not have dared attempt it. Miller applied himself to the task of drawing a

map of the area covered by his pictures, sketching it as he held the negatives up to the light, and soon produced the outline map shown in Fig. B (page 36).

Taking our departure from Gulch Cape, with a visibility of about a quarter of a mile, we laid our course N.N.E., for by Grenfell's map this should bring us to Cape White Handkerchief, clearing the reefs southwest of it. It was too calm to set our sails, and power is better for groping in the fog. After two hours on a straight course over the gray, misty sea, the masthead lookout saw dimly a dark streak like a promontory on the port bow, but a moment later it was swallowed up by the fog.

At one o'clock we had logged 15 miles from Gulch Cape and should be nearing White Handkerchief, but the fog was thick as ever. We changed course to north and presently to N.N.W., in order not to miss the cape. At 1:30 the ground swell became steeper and we watched sharply for the shore; in a few minutes the seas were smoother, suggesting that we had passed the cape and found more sheltered water, but still no cape did we see. At 2:15 we had logged 22 miles from Gulch Cape, and by our dead reckoning should have been high and dry on Cape White Handkerchief, some miles back. Soon we concluded we had passed the cape without seeing it, probably when the seas became smoother, and since a northwest course must bring us to land before long, we changed course another half point to the west. Lookouts at the bow and aloft searched the gray void for land, and we slowed the engine, in case of a too sudden landfall. At last, at 2:26, the shore loomed up through the fog dead ahead about 400 yards away. We took it for the northwest shore of Sapogatsiek Bay, the next one south of our destination, and swung to starboard to follow the shore line and see where it would lead. It curved rapidly around from N.N.E. to W.N.W., and we followed till the shore line ended in a point making out to the northwest. A study of Miller's map showed that this land could scarcely be other than the large island at the south entrance to Seven Islands Bay, known as Big White Bearskin. This was confirmed by a glimpse of an islet on the starboard beam.

On this assumption we steered west and in another mile saw more land ahead, just where Miller's map placed it. Again we turned to starboard and followed the bold, rocky shore. Crossing a cove, we passed a high, steep point from which the shore receded sharply to the southwest. This we recognized as the entrance to Komaktorvik, and set out steering N.W. to cross the mouth of the fiord, quickly losing the shore in the fog, but soon picking up the north shore on schedule. Rounding the next point, we found ourselves in a cove with the shore curving 'round to the starboard bow. Here we could see bottom for the first time, and on the shore was a long snow bank, which we positively identified in Miller's photographs, and thus proved beyond doubt that we were where we thought we were — in the cove next to the one we had chosen for our base. We now felt easy in our minds as we followed the shore of the headland around into our anchorage, but just off the north shore of this headland the masthead lookout warned us of a shoal dead ahead. We swerved out easily in time to miss it, and continued up into our almost landlocked cove, where at five o'clock we dropped anchor in six fathoms. Thus ended the most interesting, but not the easiest day's run of our cruise, and thus ended our long voyage to the scene of our surveying operations.

Inside the fiord the fog was a few feet above the water and revealed the shore line of the whole cove — about a mile in width. A strip of low, grassy land was all we could see by our anchorage, and from the look of it we

Refueling the Fairchild, Seaplane Cove, Kangalaksiorvik

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The route followed in the fog, July 21st. In the middle distance is Cape White Handkerchief, with Big White Bearskin Island on the left. The entrance to Komaktorvik Fiord runs across the middle of the picture

might almost have been off the shore of Cape Cod. For three days it was hard to realize that peaks well over 4000 feet in height rose close to the water on almost all sides of us.

The planes had not arrived, nor did we expect them. With only emergency rations and camping gear in the planes, the air force preferred to stay at Hebron and give us plenty of time to reach our base and provide them with a forecastle and galley for the business of living. And so it was that the hare-and-tortoise race along the coast was won in the end according to the form book.

The clouds hung low on the fiord till the afternoon of July 24th, and during that time we busied ourselves with preparations for the survey. An automatic recording tide gauge, loaned by the U. S. Coast and Geodetic Survey, was set up on the shore of the cove. Beside a mountain brook, near by, a dark-room was built for the photographer. The camping gear was prepared for the natural history section to use on an expedition to the interior. Soundings were begun with the dory, using a Paget angle sextant to place them by means of points on the shore.

On the afternoon of July 24th, the clouds lifted and at last revealed the mountains. Just after our return to the *Ramah* from a sounding excursion, there was a shout, "Here are the planes!" There they were, side by side, high over the mouth of Komaktorvik Fiord, coming up fast from the south. In another minute they had swooped down and landed on the cove beside us. We put out two big anchors for them, and there they rode beside the schooner for many days to come. It was a great day; we were now all together at our long-sought base and ready to begin the survey.

In honor of the planes we named our anchorage Seaplane Cove. It now became a scene of great activity. Hubbard and Bonnick set to work to equip the dark-room for the important work of developing the great films on which the topography of these mountains was to be photographically recorded. With consummate ingenuity, they prepared a studio with running water from the brook, and all other essentials for high grade photographic work.

On July 25th the weather was fine, and Odell and I went up in the Waco to look over the mountains. Flying up the shore of Kangalaksiorvik by the north face of Tetragona, we reached the head of the fiord and then flew south over the highest peaks in the range, between the head of Komaktorvik Stream and Nachvak Lake. Turning eastward over this magnificent lake, we followed the entire length of Nachvak Fiord to the sea and then returned north over Cape White Handkerchief to our base, studying the water for shoals as we went. In an hour and a half we had looked into Ungava Bay, we had covered nearly half of the Torngat Range, seeing some of the grandest scenery on the continent, never before seen from the air, and selected a base by Komaktorvik Lakes for the camping party.

After lunch Brownell and I set out with a load of camping gear in the Waco, on the first of a series of flights to establish the campers' base. Flying inland 20 miles, we came to the two lakes which Odell had noted in the morning. Landing on the nearer one, we taxied to the shore and piled up the camping gear by a clump of dwarf birch, where the ground offered a soft, mossy floor. Returning to Seaplane Cove, we completed the first round trip in 45 minutes. Kennard, Morris, and W. T. Grenfell, Jr., were flown in to the camp, while Odell and Abbe started in on foot, exploring as they went. For a whole week the five campers lived in their tents, studying the mountains, most of the time in a chill, damp fog.

The weather in that region ran in fairly regular cycles — three or four days of clear and sunny weather, followed by four or five days of low clouds and fog. Of the four clear spells we saw in the Torngat region, two included westerly gales. During the clear spell that brought the planes north, we made rapid progress with the survey. Miller completed a good part of the ground control triangulation, and on the afternoon of the 26th the clouds dispersed enough to enable the Fairchild to begin the "official photography." In less than two hours the coast from Nachvak to Eclipse Harbor was covered — more than 50 miles. But the next day the fog shut in again.

The next clear spell, from July 31st to August 4th, enabled us to do the major part of our survey. Reconnaissance flights in the Waco were made in this period, and the sea route north as far as Ryan's Bay was carefully examined for shoals.

During our stay at Seaplane Cove all hands were kept occupied with the survey, the tide gauge, photography, watering the ship with barrels brought out from the brook in the dory, and in foggy weather with computing results already obtained. In the evenings hilarity usually prevailed, with games of "twenty-one," or improvised vaudeville.

When the five campers went in to Komaktorvik Lakes, we arranged that on either July 31st or August 1st, weather permitting, the Waco would be sent in to help them move camp and to bring out any that did not wish to do the 20 miles on foot. On August 1st Brownell flew in to bring out a load of campers and their gear, and on the way to study the terrain between the lakes and the head of Kangalaksiorvik Fiord, where Miller wished to extend his triangulation into the interior. We were still awaiting the return of the plane at a quarter of eight in the evening, when four figures appeared on the shore of the cove, Odell, Abbe, Kennard and Morris. The dory despatched to bring them aboard was just making the shore when the Waco appeared, bringing Grenfell. The pedestrians had been twelve hours on the march, while the plane had made the trip in about fifteen minutes. In the plane also were some large salmon for the larder. The streams near the camp were full of them, but none of them knew enough to

(*Continued on page 86*)

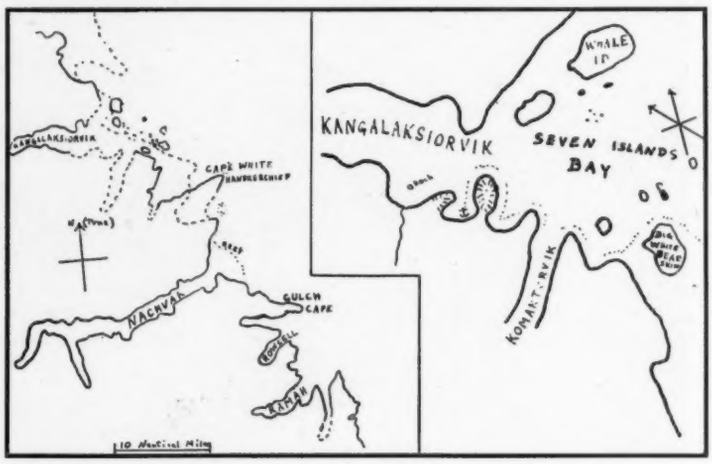


Figure A *Figure B*

"Restless II"

A Handsome 83-Footer

+ +

Owned by David T. Wende, of Buffalo, "Restless II" was designed by Hacker and Fermann and built by Defoe

Photos by Frederick Pohle

This handsome cruiser, with her straight, clean-cut sheer and well proportioned deckhouse and trunk cabins, gives the impression of efficiency combined with grace. The flaring bow permits of spacious deck room forward and a snug cockpit which is protected by a rugged but trim-looking windshield. The after deck is broad and comfortably fitted. Rounding out her trim appearance is the business-like flying bridge depressed abaft the deckhouse in such a manner as to keep her profile long and low, but at the same time give the helmsman full view. "Restless II" is powered with two Sterling Dolphin 8-cylinder engines

Pity the Poor Navigator!

Beset by a Multiplicity of Dilemmas, His Lot Is an Unhappy One

By ALFRED F. LOOMIS

IN the middle of a combination brain and stomach wave which assailed me in the last Bermuda Race I hit upon the only exact definition of the art of small-boat navigation. This is it, with the customary apologies for a didactic assertion:

"The art of navigation is the immediate recognition and correction of mistakes made in ascertaining a position at sea."

Let me prove the definition by citing the imaginary example of a poor dog of a navigator who was last seen skulking in doorways, shunned by his late shipmates. He was a good navigator, but he failed to recognize his mistakes in time. Navigating the scratch entry in whatever race it was, he made allowance for steering error, leeway, current, or something else that didn't happen to exist. Consequently, he brought his ship to the finish line just fifteen minutes later than she should have been there. The delay cost his owner the mug and lost him four places besides.

Here is how it happened: There was a lightship to be rounded, and our navigator picked it up on his starboard bow instead of dead ahead. At first this didn't seem a matter for recrimination or *hara-kiri*. The navigator's owner and shipmates clapped him on the back and exclaimed, "Snappy work, Oldtimer. That's knocking 'em for a row of steam gauges!" and he allowed that the landfall wasn't bad considering the conditions. When they crossed the finish line and found that they were the first in, his friends' elation was unbounded, although the navigator's part was somewhat overlooked in the general satisfaction with their own prowess as seamen.

The first tincture of disappointment clouded the navigator's reputation three hours later when the second boat to finish saved her time by four minutes. Owner and crew of the scratch boat thought bitterly of a number of occasions during the race when they could have saved four minutes — but fixed their attention principally on that starboard-bow landfall. If only the navigator hadn't allowed for a current that wasn't there. Subsequently, four other boats finished within their time and shoved the scratch boat back to fifth place by fourteen minutes. After that it was just too bad.

All hands went ashore to make the best of a bad job, but the navigator took his roll of bedding with him. His ex-shipmates mingled with old friends, and this was the nature of their alibi: "We sailed a fine race and everything would have been jake if (sh-sh) it hadn't been for our damned navigator. We told him he was steering wide of the lightship but the poor fish made allowance for a current that wasn't there, and we lost fifteen minutes beating up to the mark. That's what cooked us. Next time we're going to get a *good* navigator."

How about the poor navigator? Was he paid for his thankless task, or did he take it on because he loved the sport? Did he have the benefit of radio bearings and enjoy the other luxuries of steam boat navigation, or did he stand day and night watches as ordinary seaman in addition to his regular work? Did he sleep in a dry bunk and otherwise soothe his nerves with hot food at regular intervals, or was he racing in a small boat? Would anybody have given him credit for winning the race if he hadn't lost fifteen minutes in a clever miscalculation? You know the answer to these questions — namely, that the sailboat navigator's life is not a happy one.

Too often he goes aboard an ocean racer in an anomalous status. Unless he is an experienced man with a reputation he doesn't know whether he is to stand a navigator's watch or will be required to turn out, four and four, for deck duty. He doesn't know whether he is to be a mechanical position-plotter or is expected by the owner to be the strategist who directs the course, foretells the weather, and conducts the campaign in opposition to any competitors that may be in sight. Least of all does this inexperienced navigator know the extent of his authority in the most essential matter of helmsmanship.

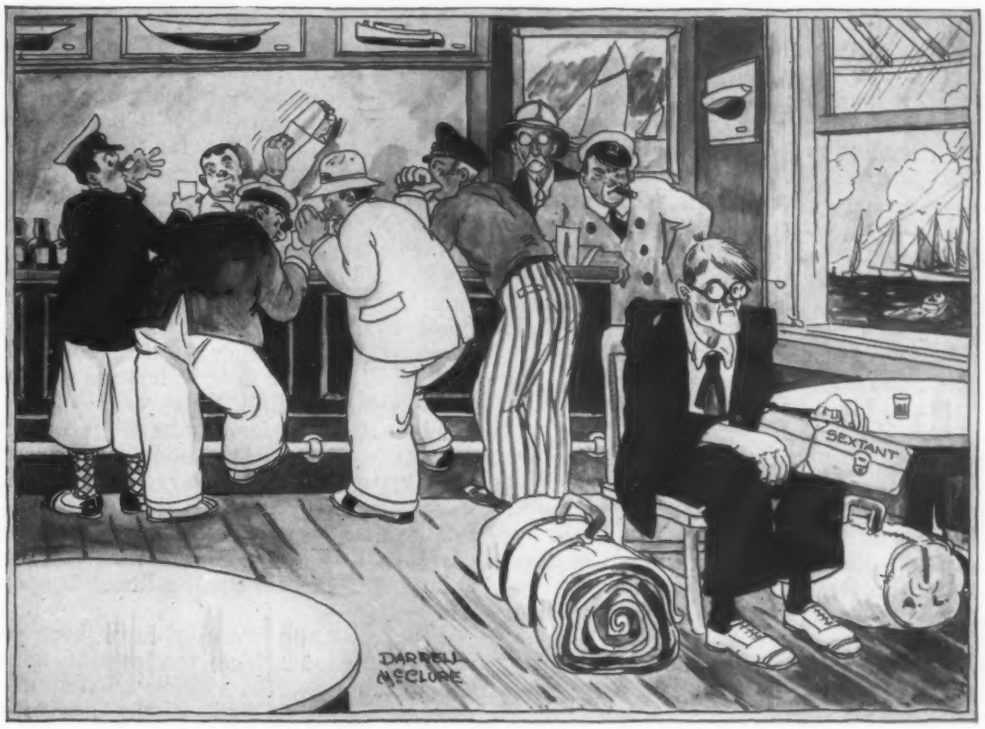
For the sake of harmony and racing efficiency these uncertainties should be definitely removed before the start of a race. If the navigator is to be a low private in the rear rank of the marines he should be publicly exonerated of all blame when a race is lost. But if he is to be the master-mind directing the destiny of the vessel in which he sails he should have the heartiest support of owner and crew. If he is to have authority over helmsmen his power should extend to the owner, mate, and all other dignitaries on board.

There are various excellent reasons why the navigator should have authority to order this man or that, including the owner, away from the wheel. The first is that he is the detached, philosophic member of the crew, able to see the whole race in perspective despite the prominence of nearby details. The second reason is that helmsmanship is about the most vital element in the sailing of a race. This fact is generally conceded when two boats are in sight fighting a ding-dong battle. At such a time only the best men are allowed at the helm, and differences of steering are quickly noted in the relative positions of the two competitors. But let one boat draw far away from the other, or let night intervene (as it will whether you let it or not), and interest in steering falls off. Every man is permitted to take the helm in regular rotation.

It is traditional for the owner to steer when any important shift of canvas is to be undertaken. This is just the time when the navigator should have authority to order him below to smoke a pipe, or forward to take a ducking on the bowsprit. I speak now as an owner rather than as a navigator, and I speak truth. As an owner there's nothing I like better than squatting on a soft cushion by *Hotspur's* tiller and saying, "All right, boys. Get in the ballooner and set the jib." Not only do I like steering and giving orders, but I know that steering is my prerogative and that I, better acquainted with my boat than anybody in the crew, am theoretically best qualified to take the job.

This is only theory. As owner and responsible party, I am the least qualified to steer the boat. I find myself wondering whether the balloon jib is going to be dragged in the water, and the next thing I know *Hotspur*

is three points wide of her course. I wonder if somebody is going to forget that the working jib is liable to tear on the bowsprit roller chocks, and by the time I've mentioned that liability in a loud tone of voice I've got the boat in irons. I curse myself out, a process which involves steering a serpentine course for two minutes, he sees that she is not footing properly will order the boat sailed by the wind. Or, if the wind is free, a good navigator, they tell me, will set courses in points, half points, or quarter points. A helmsman must have something definite to think about. There is nothing definite about an eighth point, which is unmarked on some com-



"We sailed a fine race and everything would have been jake if (sh-sh) it hadn't been for our damned navigator"

and then notice that there is a half foul in the jib halliard. So it goes. Because I "rate" the helm I lose the boat a couple of hundred yards that are lost forever.

But I don't do that any longer. Avoiding the helm is one of the best things I do aboard ship. It is not even a point of pride with me to take the tiller in crossing the finish line. I've seen valuable minutes lost in the maintenance of that hoary tradition, and I now believe that this post should be not one of honor but of racing efficiency.

Shifting the angle of view a bit, let us now see what an owner should expect of the navigator in whom he reposes the responsible task of finding the finish line. But in what follows for a paragraph or two be it understood that I speak largely from vicarious experience. I have only once been shipmates with another navigator and so only know the good ones from my own sort by what I hear when keeping an ear close to the bar at the conclusion of races.

First, I am told, an owner should find out whether his sun-shooter is a steamboat or a sailboat navigator. If of the former persuasion, the navigator won't know that his prime duty is to keep the boat moving as fast as possible as close to the ideal course as the elements allow. A steamboat navigator will set a course of, say, 106° and fight to the death to maintain that course even though the boat is starving to death and shriveling up. A sailboat navigator, on the other hand, will watch the boat's performance on the ideal course (which, if it is 106°, he will call east by south a half south) and then if passes and illegible on most. Given such a course, for instance, as east seven-eighths south, the helmsman will mentally translate it as "somewhere between east by south and east three-quarters south." Part of the time he will sail as close to east by south as the sea lets him and part of the time he will try to average east three-quarters south. But a good share of the helmsman's time will be spent trying to recall what course it was the navigator gave him.

The same indecision and the same resulting loss in steering efficiency obtain when courses are given in degrees. Many navigators received their training in the Navy and do their compass thinking in degrees. But a majority of the ocean-racing scoundrels think in points. A 222° course might be the shortest to a vessel's destination, but no windjammer will steer it.

To be an asset to his ship, therefore, a navigator must bear constantly in mind that his job is an adjunct of ocean racing and not an individual, privileged science. A man who will not bring his sextant on deck when there is spray flying should either give up the navigation of ocean racers or borrow the owner's sextant. I have frequently been told of navigators who knock a close-hauled boat off her course every time they take a sight, their idea being to obtain a steady platform and an atmosphere free from flying particles of water. This may be excellent navigation, but it is execrable racing. The boat must be kept sailing on the course closest to her objective; the navigator must keep track of her position despite the difficulties which racing imposes.

If, at any given time, there is too much spray for sights, their taking should be postponed. If, however, clouds threaten to obscure the sun or if the imminence of a landfall makes a sight imperative, then, and then only, should the course be altered for the convenience of the navigator.

If this sounds like too positive a statement let me illustrate it with a specific case. In navigating the *Brilliant* in the recent Bermuda race I took and worked thirty sights. My sextant (or, rather, the owner's) was frequently drenched, and there were many times when I was on deck with it for ten-minute intervals. Assuming, however, that each string occupied me for not more than five minutes, it may be stated that the taking of sights totaled 150 minutes — two hours and a half of dodging shadows, cursing clouds, waiting for the *Brilliant* to rise to the top of a wave without throwing me off my balance, hoping that the spray would not mist the mirrors.

Like most of the big contestants, we were sailing with sheets started, averaging eight knots. Now, if I had asked the helmsman to knock *Brilliant* off three points to smooth the platform and drop the spray, she would have sailed, in two and a half hours, ten miles to leeward of her course. Assuming, again, that by hardening our sheets we could have sailed a point high of our desired course, we would have regained our windward position in eight hours of sailing at a reduced speed of seven and a half knots. As I work it out on a plotting sheet, the net time lost in these ridiculous maneuvers would have been fifty-four minutes. If we had dropped only thirty-three minutes in the interest of scientific navigation we would have lost two places in the finish order.

As it happened, I altered course but once in the thirty strings of sights. The sun on this occasion was swinging quickly from southeast into south and I wanted a check for longitude on the last morning of the race. As the orb bore half a point on our lee bow and couldn't be seen through the sextant from any spot on deck, I gave the fateful order to bear away two points for three minutes while I snapped my sights. . . . We lost fifth place to *Highland Light* by one minute and forty-six seconds. That is what steamboat navigation does for the hopes of owners.

By giving this personal example I have worked myself back into a state of sympathy for the imaginary navigator seen lurking in doorways at the beginning of this article. Not that I have anything with which to reproach myself. On the morning of the last day of the Bermuda race four competitors appeared in sight dead ahead, and it is only a wilfully mistaken navigator who cannot follow his leaders across the finish line. Our landfall, in short, was perfect.

Let us, however, inquire into the anxieties and the hazards of a navigator's position. There is nothing tangible about his job, as there is, for the sake of a comparison, about the mate's. The owner looks to weather and says to his mate, "There's more wind up there and we'll do better without the foresail. What do you think?" The mate either agrees or advises carrying on for a while longer. In either case the decision is one of the moment — the exigency is soon past. Each problem of sailing is tangible and present. The future belongs to the navigator and the past is soon forgotten.

But suppose the owner says to the navigator, "The glass has risen, and the sky shows signs of breaking away to the northwest. What do you say to starting the sheets and making knots? When the wind does haul abaft the beam we can quickly work back to our base line." What answer can the navigator give? If he alters course to leeward and the expected lift doesn't come, he is sunk. If he holds the course, hammering into it for several hours, and the wind then frees, he is sunk deeper still.

Or take a complex case more directly related to his official responsibilities. His boat is reaching southeast on the starboard tack. Three star sights at morning twilight give him a fix ten miles west from his D.R. position. Sun sights the same morning throw him ten miles farther west. He is near enough his expected landfall to render a change of course imperative if the sun sights are correct. So he balances the probabilities, past, present, and future — which are:

One, westerly current. If it has set him ten miles in five hours must he allow for the same set to the finish? A two-knot current in the ocean seems excessive. It is better, therefore, to account for the discrepancy elsewhere. Nevertheless, doubt remains.

Two, steering error. The sheets have been eased, the sea runs high and there is the strong probability that the ship has worked out to weather. But not ten miles in five hours. Still, there may be a small steering error in conjunction with other uncertainties and the navigator will be a fool if he doesn't include it in his calculations for a perfect landfall. However —

Three, the star fix may have been wrong. Bad stellar fixes have cost more than one ocean racer her chance of finishing within the money. They may not at the time have been recognized as bad fixes. In fact, the bad landfalls which resulted have generally been ascribed to current. The fact remains that star work from the galloping deck of a small sailboat is open to suspicion. Yet —

Four, the sun fix may have been imperfect. The sights were taken from the lee side, spray threatening the instrument, the rigging getting in the way, the mainsail pressing against the navigator's back, as, supported by a shipmate, he attempted to keep a footing on the slippery cabin house. Perhaps the height of eye was too low. Perhaps he did not level his sextant on the horizon, but canted it up to the deceptive crest of an intervening wave. Yet the navigator's work with the sun has generally been satisfactory and his landfalls on past occasions, entirely by benefit of solar observations, have been good.

As if this four-horned dilemma weren't uncomfortable enough, there is a fifth uncertainty to be reckoned with before the poor navigator comes down to earth. The race, say, has ten hours to run. The prevailing wind is southwesterly and it has been blowing so for four days. Latterly it has diminished in strength, and there is the possibility that it will shift and come in southeasterly. So, even if the accuracy of the solar fix is not entirely credited, would it not be advisable to change the course a bit to eastward, just in case?

Well, there is a good example of the intangibles with which the navigator deals. He can't trust the future, the present, or the past. He knows by the discrepancy between his two fixes that he can't always trust himself. He is, if you please, a Dr. Jekyll and a Mr. Hyde, but he can't decide clearly which of the two gentlemen it was that committed the outrage on the heavenly body. Meanwhile, half the crew are asking him how far he is from his destination and what the course is going to be, while the other half are informing him that boats in sight ahead or astern are sailing diverging courses.

Yes, the navigator's lot is a damned unhappy one. Damned if he does and damned if he doesn't. And through all his uncertainty, his mental groping backward and forward over work done and to be done, he is

(*Continued on page 82*)

Some Fitting Out Facts

By WILLIAM H. TAYLOR

+ + +

"The time has come, the Walrus said, to talk of many things,"
Of putty, paint and caulking irons, of motors, gears and rings

IN OTHER words, fitting out time is here. Statisticians, who base their predictions on figures laboriously gathered and cataloged during the past half-century, estimate that during this and the next month a great many things will happen. Innumerable boat owners will get blisters on their winter-bleached hands from too much contact with scrapers and paint brushes; thousands of gallons of paint will be spilled on surfaces that have recently been painted a different color; thumbs will be flattened by badly-aimed caulking mallets, by hammers and machine tools. Many a man will go home and kick the baby under the bed because he has had his disposition ruined by his ineptitude — or that of his employees' — in the fitting out of boats. Enthusiastic boat owners will be treated for cricks in the back caused by trying to work in cramped places; dogs will come home with brilliant red and green patches on their backs after running under the keels of freshly painted boats. And the divorce rate will rise by three per cent as a result of seagoing husbands trying to tell wives how to do certain jobs that they "never pretended to know how to do, anyhow."

This, we feel, is enough to give a rough idea of what is going on in American shipyards.

Of course there were a lot of people, last January, who weren't going to fit out their boats at all. But the sun came out, and the breeze off the salt meadows brought familiar perfumes, as did the breeze from over the lobstermen's bait houses. And suddenly thousands of men who weren't going to fit out remembered that a boat deteriorates much faster if left on the beach than she does if put into commission, even if some of the less urgent jobs are neglected in honor of the depression. So they're fitting out again.

Not, perhaps, in the lavish fashion of the gold rush days. Comparatively few owners will drive down to the shipyard, glance indifferently at the canvas cover that hides their craft, and with a grand flourish of the hand give the order to give her the works: "Everything she needs. I want her in the very best condition and you've got to have her ready inside of three days."

There may be some owners like that left, but most of us, whether we own big schooners or little cabin cruisers, have been spending considerable time in figuring just what must be done this year and what we can safely let slide. It's surprising, when you put your mind to it, how much of the apparently necessary work can be passed over for a year, or eliminated — especially if you have just bought a second-hand boat. The writer has bought a number of them — never bought any other kind — and always with a mental note to change this and eliminate that before putting her overboard for the first season. Inevitably, when the first Spring rolled around, we have found ourselves broke — even before the depression we were broke — and have shoved her overboard anyhow, planning to make the changes later in the season. And almost always, after a few cruises, we either got used to living with the things we didn't like at first sight or else found that they were actually there for a good reason. Few of the contemplated changes were ever made.

In which respect may I digress to tell a story of one of the wisest cruising men I ever knew, the late Harry Plummer? After half a century of experience in every kind of boat, he had a small cruising auxiliary built and delivered with the cabin plumb empty. Inside it he built up, out of odds and ends of unpainted lumber and packing boxes, bunks and shelves and lockers for the

sort of layout he thought he wanted. He cruised in that rig for a year, continually knocking out this, building in that, and altering the other. By the end of the summer he had things just about right, and the following winter — no, he didn't sell the boat — he spent his spare time building in a finely-finished permanent cabin interior modeled upon the temporary rig as amended during the first cruising season. As a method of saving first cost and at the same time getting close to perfection in layout, I never heard of a better scheme.

But to return to fitting out. Suppose your topsides, or bottom, or both, need burning off — the paint not hopelessly gone all over, but just ragged in spots. In 1929 you would have had them burned off, but now it looks like quite a contract. So you take a scraper and clean off the places where the paint is actually cracked and blistered, not being too conscientious about looking for trouble. Then build up a body of two or three, or maybe four coats, on the bare places, taking care not to slop over and build up the old paint, too. A puttering job and one that takes time, but little paint. Then the usual scrubbing, sandpapering, and one or two coats all over, and you'd hardly know the difference if you stand far enough away. Especially on the bottom when she's in the water. Of course, you may have to have her burned off next year, or the year after, but the Democrats are going to bring back prosperity by then — so they say.

Maybe you used to reeve new running rigging every Spring. Well, try turning it end-for-end this year. It'll go you. Even an anchor rode can be made to do extra duty by this method, but don't try it with your heaviest rode, because some time, maybe. . . . Perhaps you tried chopping driftwood or digging new channels through the mud with your propeller last summer and it shows signs of serious wear and tear. It would be nice to have a new one, but if you can't afford it there are people who make a business of repairing damaged wheels and you'd be surprised what mangled wrecks they will send you back looking and driving as well as new.

Motors are something else again. It is not economy to start the season with clanking main bearings, sticky valves, half an inch of carbon in the cylinders, mud in the carburetor, and a worn-out battery. Still, there are economies available. It may even be an economy to trade in your old motor for a new one, or a thoroughly rebuilt one. It depends on how much and how expensive repairs are needed. If you don't need a new motor, but do need overhauling and aren't a mechanic yourself, there are a lot of unemployed mechanics — and darned good ones — who will be glad to do it for fifty cents an hour this Spring.

And so on. If you give the matter enough thought, applying Yankee ingenuity and Scotch principles to your boat's own special needs, you may begin to wonder why you ever spent so much money on fitting out before. At least, you'll find that fitting out is better sense and economy than letting the boat rot on the beach while you swelter in the city all summer.

But this is all depression talk, and therefore sinful. What we should have said is, "Hurrah, boys, spend all your money on your boat before the rest of the banks close down on it like a hatch cover on a bare toe."

If you are a regular subscriber to YACHTING you will recall that we published a treatise on this very subject of fitting out a year ago. If you are not, you ought to be (Advt.). We supposed that we had thus solved all problems for all time, but it seems we were wrong again. We have received thousands upon thousands of letters demanding more light on this subject, or on that, to say nothing of the letters we have received from attornies bringing suit against us on behalf of clients who had made the mistake of taking our advice too literally.

For instance, there is the matter of moorings, on which we did not touch at all, on the assumption that everybody already knew all about moorings. Moorings shouldn't be much of a fitting out problem, because the best thing to do with them is to leave them down forever, once you get them set. That is, provided you haven't any swivels down below to wear out. Swivels in moorings are always the weak spot, are perfectly useless, and ought to be abolished by law. Overhaul the upper part of your chain, and if that's good, and the same age as the rest of the gear under water, you needn't worry, provided your mooring was heavy enough in the first place, which most moorings are not.

It is astonishing how many men who take great care to keep the bottoms of their boats armored against worms, grass, barnacles, and what not, never think to do likewise for the rope part of the mooring line. A mixture of half red copper paint and half kerosene, soaked well into the line, either with a brush or by total immersion, will keep the pennant clean as a whistle all summer — which is longer than you ought to use one line. But don't paint the end that comes aboard unless you want red streaks on your deck and bow all summer. Another thing, why don't more people rig new mooring pennants before their boats are launched? It seems sort of silly to work all Spring getting your boat in shape and then take her out and hang her on last summer's pennant, which is likely as not to part the first night she's out there and land her on the beach, a total wreck.

Then there is the earnest seeker after light who wants to know how to put a stop to rust from iron fastenings seeping out past the plugs and running down the topsides in unlovely red streaks. This one has us stopped. Immediate relief is provided by digging out the plugs, scraping the scale off the nailheads, giving them a dose of thick paint, and plugging the hole with the stickiest possible mixture of white lead and whiting. That should hold it for a season or two, but the only permanent solution we know of is to paint the topsides red or brown so that the streaks won't show up as much.

Another correspondent wants to know if it is really true, as the advertisements announce, that old gasoline is no good. If you don't believe it, brother, just try to start a motor on gas you left in the tank last Fall. What you should have done was drain it out and use it in your automobile, thus gypping the state (if you live in New York) out of fifteen cents worth of tax money, provided you didn't forget to collect your rebates, as most people do. If you have any gas left in the tank, dump it overboard, and don't — for Pete's sake — throw matches overboard after it. It floats, and even after a winter in the tank you'd be surprised how it will burn.

Apropos of which, this Spring — now that you have plenty of time on your hands — is a good time to fireproof your tank and motor, if it isn't already fireproof. With a few feet of piping, a few fittings and a deck plate or two, you can do wonders. Pipe your fill hole to a deck plate, with all joints tight. Run the vent line outboard, preferably up along the side of the wheel house, or elsewhere well up in the air, and turn over the end of the pipe so that the rain won't get into it. See that all feed pipe joints are bone dry when the pipe is full, and that the carburetor has a backfire trap on it and a copper drip pan, with a copper gauze top, under it, with a suction line to the intake manifold. To one who has been through one nearly-fatal fire at sea, it is horrible to contemplate the number of floating fire traps chugging

(*Continued on page 84*)

A Winter Gale off Hatteras

Hove To for Five Days in a 37-Foot Cutter

By LEWIS H. DAVIS

"SO YOU'RE goin' outside to the West Indies in *that* ship! You just wait till you get out there and that old Gulf Stream starts horsin' up against a nor'easter! What're you goin' to do when you're sittin' on that little ship and see one of them great big things comin' down on you? What're you going to do? No, sir, you couldn't get me to go in that outfit for fifty thousand!"

Such were the words of encouragement offered us with disturbing frequency by an Old West Indies schooner captain as we prepared the *Seal* for our trip from Montauk Point to the West Indies. Incidentally, he lost his schooner, not in the Gulf Stream when she was "horsin' up," but in a harbor.

"Wouldn't put outside the harbor mouth without a storm trysail. Haven't got one, have you?"

"Two of them, sir!" I countered, and immediately felt that I might have had sufficient consideration to have mentioned only one.

"Haven't a spare anchor for that ship, have you?" he asked, eyeing me hopefully.

"Two of them, sir!" I was unable to restrain a smile.

He was tenacious. "Well, you couldn't get *me* to go in that ship for fifty thousand!"

With the memory of the captain's words still vivid from much repetition, my wife, a friend and I rounded Montauk Point on the afternoon of November 19th and pointed the beautiful bow of our little cutter towards the Gulf Stream. After an entire summer spent alternately in preparing the *Seal* for her voyage and trying to hold our anchorage before the summer's nor'easters (both to the accompaniment of multitudinous "wise cracks" from the waterfront salts) the horrors of the Stream seemed less forbidding than another month in harbor.

In spite of the cheerful doubts of those whose experience was far greater than ours, we felt that the *Seal* was quite capable of seeing us through whatever we might meet. She is 37 feet in length, 10½ feet wide, with 6½ feet draft. Designed by Hand, *Seal* was built by Reuben Bigelow, in 1919, for Starling Burgess. Her hull is a sturdy one, consisting of frames two by two and one-fourth inches, spaced twelve inches, and covered with 1¼ inch planking. She has a low rig with a mast of sufficient diameter to make the half-inch steel shrouds almost superfluous. A low trunk cabin less than three feet wide has the triple advantage of giving strength of hull, headroom where needed, and excellent deck space.

One of *Seal's* bad features was a deep self-bailing cockpit, which, we estimated, would hold a ton of water. In preparing her for a Bermuda Race, her former owner had built over the original cockpit a shallower one which would efficiently rid her of seas, and we feared, of her helmsman. It took a storm outside Cape Cod to give us the idea of tearing out the false cockpit and building a hatch over the original. We covered the after half of the cockpit with a permanent peaked hatch, and solved the problem of the fore half by hinging to the permanent part two doors which folded back on the after half when not in use. Our tiller now sweeps over a plank seat placed just forward of the stationary part of the hatch, giving a good back for the helmsman. Sitting on the lee side with the windward hatch door closed and the lee door ready to pull down when a sea threatens, we have excellent protection against wind and sea. This arrangement has more than proved its worth in our three weeks at sea.

"Seal," a 37-foot cutter, lay hove to for five days off Hatteras in a winter northeaster

Seal is equipped with a husky 2 cylinder 4-cycle motor that might have given us excellent service if we had known better how to run it and could have kept it going for more than fifteen minutes.

I suppose ships do pass Cape Hatteras without a beating. We had hoped we might be one of the few, but our hopes were in vain. The noon fix for Friday, November 25th, placed us at Latitude 35° 52′ North, Longitude 73° 6′ West, about 150 miles off the Cape and a little to the north. For several days previous there had been lee sets in the east, so we were prepared for something. Early in the afternoon a warning was whistled to us from the southeast. We lugged two reefs for a time, recalling too vividly the light head winds of the last few days to wish to shorten sail before it was absolutely necessary.

At 3.00 P.M. dirty, ragged clouds appeared out of the blackness in the East, so we downed mainsail and rigged the storm trysail. We had never had an opportunity to try the *Seal* under her smaller storm trysail, so we were a bit anxious as to how she would heave to under it. Our main boom, with sail snugly furled, was pulled down on the port side of our permanent boom crotch. We lashed the trysail loose-footed to it and hoisted the head by means of the throat halliard. Ninety square feet of storm trysail looked small enough when hanging from the mast on a summer day in harbor, but as I pulled on that throat halliard, with the heavy canvas bowed out as stiff as a wooden sail on a ship model, I caught myself

wondering if this could be the same sail. With trysail up, we tried lashing the tiller amidships, but since this gave the seas too good a shot at our sides, we shoved it hard down and lashed it, closed the hatch doors over the cockpit, and stood in the cabin hatchway to watch the *Seal* handle herself.

I judge we were heading between 65° and 75° off the wind — an excellent angle to ride the seas, but one that was a bit too close to 90° for peace of mind, especially since stray seas had a way of favoring the bow rather than the stern as they sought to push us to leeward.

With trysail rigged as we had it, the *Seal* was not stopped, but made, as nearly as I can estimate, a knot or so. We did not try her with trysail trimmed squarely amidships, for we felt it worth sacrificing the comfort a dead standstill might give us for momentum sufficient to carry us through breaking seas.

The rest of the afternoon we lay hove to before a wind that made the rigging hum, and whipped the seas to enormous heights. With tiller lashed, *Seal* behaved beautifully, taking the seas at just the right angle. At 6.00 P.M. we learned that the events of the previous hours were merely a prelude to what was coming. There was a lull in the gale; then the wind whipped around to the northwest and came down on us like a shot from a gun, working around to the northeast, where she let fly in dead earnest.

Peering through the windward ports into the darkness, we could see huge mountains of black, crested with luminous white, looming up against a sky that was only a shade lighter. Every once in a while a stray sea would catch us broadside with a great crash that convinced us that we should have waited for fairer latitudes before buying the sharpie that was lashed on the windward deck. Fearing lighted lamps in our tight cabin, and being sparing of our lamp chimneys, we passed the first night and the four others of the gale in darkness. Our knowledge of the strength of our ship was largely theoretical, so the first night of the gale was a memorable one. Towards midnight the crashes became more frequent and more severe. Each one forced miniature showers under our tightly battened rubber-set hatches and caused us to make our way through the dark, lurching cabin, feeling ports, hatches, and timbers, meanwhile racking our heads for a device to keep out the seas in case we found what we had expected. After ten hours the monotony of the cycle of events began to tell on our nerves. One moment we would be in the trough of the sea. If we could forget the crash that had just sent us on one of our cabin tours, we might imagine ourselves anchored in a snug harbor; there was only a low moan in the rigging and the sound of water dripping on the cabin roof from the sea that had just torn at our storm trysail. Then would begin the endless ascent, the sound of the wind in the rigging increasing in intensity and pitch as we mounted the sea, until it reached the proportions of a shriek. We then knew that the *Seal* was to be tested once more, for one of two things always happened. Either there would be a slight lurch and a terrific hiss as a breaking sea caught us a glancing blow, or a deafening crash as it caught her broadside and sent her careening crazily down the side of the departing sea. The latter event brought with it a strong nervous tension as we waited almost breathlessly to see whether the *Seal* was to find enough wind with her rag of a sail to head her up in time to meet the next comber properly. How often, during those endless nights I wished that the *Seal* had a forefoot of sufficient depth to hold up her head to those seas! Certainly, I would willingly have sacrificed *Seal's* "tiller-tenderness" for the deep forefoot of the English cutter. I believe that there is an old hymn containing the refrain, "as sailors wait for the morn."

The "Franklin K. Lane" came out of her course to offer assistance and stood by for twenty minutes

This phrase ran through my mind as I dozed fitfully in my pipe berth or made my tour for broken hatches and timbers. Morning never came until we had given up hope of its coming, but it was always accompanied by more wind and even greater seas.

On the second day of the gale I decided to do some experimenting. Before leaving I had tried to get a sea anchor but could procure one of only life boat size. Deeming that for an eleven-ton ship a sea anchor less than six or eight feet in diameter would be useless, I left without one, planning to improvise one if necessary. Now was the time to try. I took the spinnaker boom, bridled it, lashed heavy buckets on either end and our 50-pound anchor in the middle, and put the contraption overboard at the end of 500 feet of line. Far from pulling *Seal's* head to the wind, it streamed out astern, getting tangled with the log line and snapping it. No sooner was it out than I wished it in again, but, being unwilling to lose the line as well as the boom, buckets, and anchor, we towed it. That device having proved a failure, I improvised another, composed of our awning arranged like a parachute, and spread with heavy oak oars. It followed its predecessor astern and became entangled with it. After this there shall be no more fooling with sea anchors — at least of the improvised type. I believe that for a boat as heavy as the *Seal*, an adequate sea anchor must be of a size too great to be practical. Hereafter I propose to spend my efforts making sure that the ship is properly hove to.

On the morning of the third day of the gale, we discovered the cause of the crashing. *Seal* has an outside rudder with tiller stick entering the cockpit through a hole in her transom eight feet from the deck. A canvas

collar had been rigged to keep out the sea. It was badly worn and was one of the few things which I had neglected to repair before starting. The seas gradually slopped in until the cockpit was nearly full, and the racing waters tore loose life-preservers and a spare tiller we had lashed there, the one drain pipe apparently being unable to free the cockpit. Moreover, a leak had developed in the stern, and the lazarette had enough water to float the odds and ends of lumber stowed there. This thrashed madly back and forth until it tore from its bags our 150 pounds of coal and battered off the heavy brass manhole plates in the cockpit floor. The net result was a surging mass that pulled the stern down and brought the bow up so that each sea swung her around on her heel so far that she could not recover in time for the next. Our watertight bulkhead saved our lives.

The third day of the gale we are not likely to forget. We had just passed through the worst night of all, lying almost broadside. The hours were a succession of ominous calms and smashes. *Seal* would lurch down a sea into calm water and windlessness, and then we waited breathlessly, for we knew that the calm was only a temporary lee caused by a mountain of water that would subsequently crash down upon the struggling boat. Early on the morning of the third day (I believe it was the third — one loses track of days during a bad storm and the log book suffers during one's first gale) the seas were at their worst — endless processions of dark blue mountains, white-topped, streaked with long lanes of foam from crest to crest. The wind had about doubled my estimate of how hard it was possible for the wind to blow. Sea anchors had failed, and now my psychology was beginning to falter. Twenty-four hours before, when the wind had noticeably stepped up its velocity, I comforted our meager crew with the announcement that this was probably the final paroxysm of the gale. Inevitably, such announcement was followed by a shriller shriek in the rigging. I now refrained from forecasts.

Although the steamer was close by, she was practically obscured by the big Cape Hatteras seas

At any rate, on this day I watched the jib, torn from its lashing on the bowsprit, thunder for a moment in the gale, and then seek refuge from the wind in a wad at the base of the bobstay. That done, the wind sought out bigger game. There was a jarring crash, and we peered from the port to see the side of our brand new sharpie split from stem to stern. I was just planning how I might fix it when another comber saved me the trouble. I cut the lashings and gracefully gave the sea its game.

This done, I took up my watch at the lee port. Only occasionally could I see further than three seas off. On one of these rare occasions I thought I saw a steamer coming toward us not far to leeward. I called the others and soon we were sure. From the crest of one wave, we could make out a large tanker only a few seas off, headed straight for us. It was only a momentary glimpse, for a sea blotted her from view. Soon we saw her very clearly and more frequently. Our courses crossed, and by no exaggerating of estimates could I conclude that we would miss each other. I feared that with our useless mess astern, we could not steer the *Seal*. I waited until there was no doubt that we would meet, let a sea pass over us, and then made my way to the cockpit. It was then that I discovered its condition. Waist deep in water, with my feet being swept out from under me every few minutes by the racing manhole plates, I recovered the tiller that had been torn from its lashing, inserted it, and threw it hard to windward. *Seal* responded slowly but surely. At least we could steer her enough to avoid a collision.

But better news still! The tanker saw us. She veered sharply and stood by. One moment her propeller would be thrashing the air; the next her bow would be pointing at the pole star. We could clearly read her name — the *Franklin K. Lane*. A man on the bridge waved to us, obviously asking whether we needed aid. I asked the crew whether they wanted to desert. (Goodness knows how we could ever have boarded that steamer!) We all agreed that we could not desert the *Seal* merely because she made us a bit uncomfortable while she fought the battle for us. That decided, we chose an appropriate time for opening the hatch, waved at the man on the bridge and snapped some pictures of his heaving tanker with the Leica. Apparently satisfied that we could weather the storm, he maneuvered his ship around and headed south. He obviously had seen us first and had left his course to come to our aid.

After the steamer disappeared I managed to get back into the cockpit. The bilge pump was useless, being clogged with coal from the broken bags. Recovering the badly battered gear, I threw over the broken cushion and life preservers and bailed her dry. The procedure was to throw out half a dozen buckets of water and then slam down the hatch before a wave swept over us. With the cockpit emptied, the *Seal* was her old self again, in spite of the drag of the two "sea anchors." On the last day of the gale we recovered them — spinnaker boom snapped, anchor and one bucket gone, the other bucket badly bent, oar snapped, and awning ripped beyond repair. However, we recovered our line.

One of the greatest thrills a good ship can give her owner is her behavior when properly hove to. *Seal* behaves beautifully when hove to under mainsail with deep third reef and staysail. We rode through our first northwest blow with this rig very comfortably. When properly ballasted, she heaves to equally well with the miniature storm trysail.

Two more days of gale, with wind and sea apparently undiminished. We made a rough collar for the hole in

(Continued on page 82)

Docking the Power Cruiser

By

GERALD TAYLOR WHITE

DESPITE oft-repeated expressions to that effect from dyed-in-the-wool windjammers, there *is* more to handling a power cruiser than there is to making an automobile go where you wish. It is quite true that ordinary steering does not require great skill, but the cruiser-skipper who can do nothing better than steer his boat in circles, or keep her on a straight line, is a long way from being entitled to oak leaves on the peak of his cap.

The skill of the power boat pilot is shown in the way he makes landings, or negotiates difficult waterways or rough seas. But before discussing any of the fine points involved we must outline some basic differences between rudder action in sailing and rudder action under power.

In steering a sailing yacht, the action goes back to the original idea of a rudder — simply a steering oar more conveniently arranged. The boat is steered by increasing the resistance on one side, and also by creating a current at an angle to the keel, the action of which sends the stern in the opposite direction.

While the same law may hold for the action of the rudder of a power boat, it must be taken advantage of with much more discretion, for the greatest steering power of the blade comes from the strong jet of water which is thrown astern by the propeller. Every propulsion expert now agrees that a boat is propelled by the reaction from a jet of water thrown astern by the propeller. The old theory of the wheel threading its way through the water like a screw has been exploded time and again by irrefragable experiments.

Thus, steering is a matter of directing to a desired angle the actual power that is sending the boat ahead. It is something like turning a sail boat by means of the sails as well as the rudder. When this principle is understood, the next important step is to realize that the rudder is of absolutely no use unless the boat is making some measure of speed *through the water*. When a boat is drifting with the tide or current the rudder may be entirely disregarded, for there is no difference which side the helm is placed — the drift remains along the same course. In other words, unless the propeller is turning, or the boat is shooting ahead from some cause other than the speed of the current, there is no rudder action. Right here is where the matter of expert handling comes into play.

Figure 1

Let us suppose that the boat is being brought up to a dock more or less parallel to the course which the boat is making before the landing maneuver was started. Let us also assume that whatever current there is running is going in a direction opposite to the boat's course. In other words, we are supposing that we have an ideal landing situation. Yet, in spite of all the advantages, the dub can make a mess of the landing. The usual mistake is to check the boat's way too soon. The so-called "grandstand" landing has its bad points, but it is preferable to the landing that has to be tried again and again because the boat is not brought close enough to make fast.

Depending upon the size and speed of the boat, check down to half speed when a hundred feet or so from the end of the dock, and with the boat approaching the dock at an angle of approximately 20° (Fig. 1). Do not pull the clutch into neutral until you are within two or three boat-lengths. This will allow you to retain steerageway and the maximum benefit of your rudder. Just as the bow gets about even with the nearer end of the dock, go into reverse, with the engine at about three-quarter speed. This will check your way in just about one boat-length. For the time being, you can leave the helm amidships.

If this maneuver is properly carried out, your bow will now be very close to the dock, but the stern will remain at about the 20 degree angle. If there is a man forward, have him make fast a bow line, allowing plenty of slack. Now put the helm hard over in the direction that will turn the bow away from the dock, and kick in the clutch for an instant. There will not be time to overcome the inertia of the boat, but the stern will swing in towards the dock. Pull the clutch back again into neutral until the stern has ceased to swing, and then kick her ahead for another instant. Two or three of these "side kicks" will move the stern in so that the boat is parallel to the dock. Not until you have made fast a stern line is it necessary that the boat actually touch the dock.

The inexpert procedure is to check the way of the boat well before the dock is reached, hoping that she will drift in to the dock at a convenient angle. If you misjudge your speed, either you will smash the dock or you will not come close enough. If you just fail to make it, you will give her a gentle kick with the clutch, but, aside from the swinging of the stern, nothing will happen. About that time you lose your head and the clutch is rammed home and the throttle opened. By the time you realize that you have at last overcome the inertia of the boat and pull the clutch out, there is a sickening crash — and snickers from the audience of spectators.

Now, in the discussion of the proper maneuver for making the landing, I assumed that you had a man forward. Suppose you are doing the job single-handed. The maneuver is exactly the same except that you approach the dock at a somewhat flatter angle, say ten degrees. This will give you a chance to kick the stern in before the current has taken hold

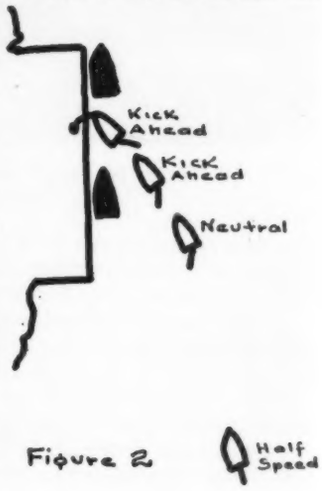


Figure 2

of the bow and swung it around. In making a single-handed landing it is well to lead the bow line back outside of all stanchions and fittings and belay it lightly, close to the steering wheel. As soon as you touch the side to the dock, step out, walk forward, and make fast.

But suppose there is another boat just astern of where you wish to lie? This situation (Fig. 2) requires that you come in at a greater angle; you may not be able to kick the stern in enough without overcoming inertia and sending the boat ahead into another boat, or beyond the dock entirely. If you have a man forward, get him off with a bow line and a fender. Let him allow a bit of slack on the line, taking a turn around the bollard or cleat on the dock, and holding the end in his left hand. With the right hand he swings the fender in between the dock and the boat. Now, put the helm hard over to turn the bow away from the dock, and go ahead at quarter speed. Prevented from ranging ahead by the line, and from being damaged by the fender, the stern will do the only possible thing, and swing in. The man will have to slack off just enough to allow the boat to swing in parallel to the dock.

This method of swinging the stern by pinning the bow in place is the secret of the tugboat captain's art, but few power boat skippers seem to be familiar with it. At the risk of being accused of making this a self-laudatory article, I recall once winning a bet by turning a 45-foot boat entirely around in a concrete-walled canal that was exactly six inches wider than the boat was long. That six inches allowed me to jam a fender under her bow; the rest was putting the helm over and the clutch in ahead. She wound herself around as sweetly as anything you ever saw.

If you would wind a boat around when you have no man forward and no fender, you can still do a good job by putting the helm hard over and giving her the ahead position. Watch her carefully, and as soon as the inertia is overcome and she starts to range ahead, go strongly into reverse until you have checked the headway; then snap instantly into the ahead position again. In every case you will find that the stern swings in before the boat gathers way.

Another secret of good maneuvering is to remember that the reverse is of little use except as a brake. Few boats will answer the helm when going astern. If you must back out of a narrow space (Fig. 4) and find the stern going too far to one side, it will be of little avail to try to steer her. The speed will not be great enough for the rudder to have any effect. Instead, handle the helm as in going ahead, and, when you must straighten out the stern, do so by going *ahead* on the boat instead of astern. This is simply another result of the tendency of the stern to swing before the boat gathers way.

Figure 3

A landing with the current (Fig. 3) is more difficult than one against the stream, and should never be attempted unless there is no alternative. The first requirement is that you must be prepared to make fast by the stern. With the line ready and your plans laid so that you know exactly which bollard or cleat you are going to use — it is wise to have a second choice if you can — come in slowly, from some distance away, and then, just before you reach the dock, maneuver the helm in the way required to run her parallel with the dock, and then *go ahead*. Don't forget this part of the operation. Nine out of ten poor landings result from going astern at the wrong time. Just as soon as the ahead motion has produced the desired change in course so that she is coming in parallel, go astern with everything you have and pray that you will check her way in time.

Some boats have the bad habit of swinging the stern when the clutch is in reverse. If your boat is included in this list of "bad actors" you must make allowance for the swing. Now for a word of caution. If you are single-handling it and have to jump ashore with a line, be sure that the clutch is in perfect neutral before you leave her. Otherwise you may find yourself standing on the dock while the boat goes off on her own. The safest thing to do is to kill the ignition switch just before you jump ashore.

The skipper should study his boat with the same attention that the windjammer gives to sail trim and balance on different points of sailing. No two power boats act exactly alike. The shape of the underwater surface, the area and position of the rudder, even the ratio between the diameter and pitch of the propeller will have an effect upon maneuverability. A heavy boat will range ahead with hardly a perceptible lessening of speed for some yards; a light one will carry way but for a short while after the clutch is pulled into neutral.

These differences are particularly evident when the boat must be handled in tidal or other currents. Some boats, as soon as the clutch is pulled, will swing around by the stern. This tendency will be accentuated if there is much wind and the cabin erections are high, or if they are so spaced that they present a greater area to the wind either forward of aft. The boat which handles nicely under average conditions may become almost unmanageable if the cockpit curtains are down and there is a stiff breeze. The skipper must then consider the curtains as a sort of sail, but he must deal with the disadvantage that it is practically impossible to luff. The situation is almost like that of landing a sail boat with all canvas set, the wind directly abeam and the sheet pinned home.

We have considered only single-screw boats so far, but the skipper of a twin-screw job will find that almost the same principles apply, but with the added advantage that he can also swing the boat bodily by going ahead on one wheel and astern on the other. In this case he must bear in mind that the rudder action will apply only to the wheel that is going ahead, and it is relatively useless to place the blade over to the side of the astern-going wheel. You will find upon trial that the rudder is thus relatively useless in close maneuvering with a twin-screw boat, for the very wheel that is trying to turn the boat to starboard will be the one that would affect the rudder blade only for a turn to port. Expert skippers of twin-screw jobs realize this and more often maneuver on the basis of the wheels being in the ahead motion only on the side to which the blade is turned. In other words, they kick the stern to one side or the other by an ahead position instead of trying to drag one side back by a reversed wheel.

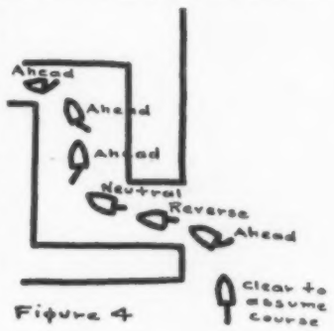


Figure 4

Rivals for Eight-Metre honors. "Angelita," winner of the series, at right, and "Santa Maria"

The Mid-Winter Regatta at Los Angeles

By

CHESTER G. MATSON

TITLES were awarded three defending champions and one aggressive newcomer to the ranks of series winners in Southern California class racing at the Seventh Annual Mid-Winter Regatta, held off Los Angeles harbor, February 22nd to 26th. The three defending champions to retain their laurels were *Angelita* in the Eight-Metre division, Olympic title-holder for the class, owned and sailed by Owen P. Churchill; *Vega II*, in the Star Class, sailed by Billy Lyon of the Newport Harbor Yacht Club, and *Patricia*, among the Skimmers, with Dick Russell of Alamitos Bay at her helm.

Caprice, trim double-ender, with Tommy Lee of the California Yacht Club at her helm, sailed to a well-deserved victory in the Six-Metre Class and received the award of the Ben R. Meyer trophy. She took three firsts, one second and a fifth in the five-day series, to win with 25¾ points against an aggressive fleet of five highly groomed local craft. This is the first series victory for *Caprice* in her three years of competition, though she holds the Endymion and Avain trophies and qualified in the Olympic Six-Metre competition.

Second to *Caprice* by a close margin was Russell Simmon's *Clio*, ex-*Clytie*, a Frederick Hoyt design. A light weather craft, *Clio* has participated in every Mid-Winter regatta and her sound victory in the final day's event was her third in seven years. In order, came Don Douglas' *Gallant; Lanai*, defending champion for the past two seasons and handled by L. N. Slater, Jr., son of her new owner; *Mystery*, Bill Bartholomae's Anker-designed sloop, and *Harpoon*, venerable local craft, with Morgan Adams, of the Los Angeles Yacht Club, at her helm.

Angelita's third consecutive victory in the Eight-Metre division of the Mid-Winter event and her now firm hold on the George Brock trophy was not secured without strong opposition from her perennial rival, *Santa Maria*, former holder of the King of Spain trophy. *Santa Maria* was again sailed by her owner, Pierpont Davis of the California Yacht Club. Churchill broke a series tie to take the fifth day's race in a decisive win.

Billy Lyons won three consecutive first places with *Vega II* to retain his local supremacy in the Star Class. The Long Beach Star Fleet, knee-deep in preparations for the Internationals next season, did not make its appearance, so Lyons disposed of *Alibi* and *Morningstar*.

Cruising class races completed the regatta program, with Arthur Stewart's *Pirate* taking the two-day series for the mixed classes. *Pipit* placed second; *Thorobred*, by virtue of but one day of sailing, third; *Marylyn*, Ken Taylor's new cutter, fourth; *Charmar* (ex-*Seymour*), fifth; and *Burrapeg*, W. E. Candy's new ketch, sixth.

Ray Chapin Photos

A Six-Metre start. Coming into the picture at the left is Morgan Adams' "Harpoon." In the background, from left to right, are "Gallant," "Mystery," and "Caprice," with "Clio" in the foreground

From Motor to Propeller

Shafts, Bearings, and Stuffing Boxes—Suitable Materials and Methods of Installation

By GEORGE F. CROUCH

I AM a little timorous about writing my opinions regarding propeller shafts for I have had a number of unfortunate experiences with them in racing boats, and those experiences have given me some set opinions as to what I like and what I do not like. Other naval architects whose results have differed from mine do not always agree with what I believe. The reader is hereby warned to take what I have to say as my own personal opinion, based on my individual experience, rather than as incontrovertible fact.

With regard to the material of the propeller shaft, there is much latitude for choice. It depends upon what the builder is trying to accomplish, and where and how the boat is to be used. A shaft which would be suitable for a runabout in salt water might be more expensive and no better than one of a much cheaper material if the boat is used only in unpolluted fresh water. And, likewise, the material suitable for the shaft of a racing boat is quite impossible for a tow boat.

All propeller shafting should be fairly hard on the outside in order to prevent excessive wear in the bearings at the struts and in the stern tube or shaft log. Shafts which are soft are prone to cut and in some cases tend to pick up the metal of the bushings in the bearings, and to build this material up into a lump — and then there is real trouble. The shaft may freeze solid in the bearing and break off ahead of it, or it may split the bearing — a serious matter if this happens at the shaft log. If the shaft bearings could be kept lubricated, hardness would not be of such great importance, but it is out of the question to count on much lubrication in the shaft bearing of the ordinary motor boat. The builder is forced to select his materials to prevent trouble in case lubrication is neglected entirely. Steel, naturally, has a splendid bearing surface, provided it does not corrode, and Monel metal is also excellent, but care must be exercised when dealing with bronze shafts as these do not possess an equivalent degree of surface hardness.

Another requisite of the ideal shaft is that it should possess a high degree of rigidity as well as strength. If the shaft is flexible, it will whip out of line between the bearings and cause vibration, and vibration not only shakes the boat but causes a loss in speed. I have seen an increase of ten per cent in speed gained by replacing a whipping shaft with one of a more rigid material. Please note that the quality of rigidity is not the same as that of strength. As an example, cast iron is more rigid, but is only one-third as strong as some of the better bronzes. Cast iron will keep its shape and resist bending up to a given point, but will break at a lighter load than the bronze. Of course, cast iron would be impossible for a shaft and it is mentioned only to illustrate the fact that a material may be rigid but lacking in strength.

And strength is another and important factor to be considered when selecting the material for the shaft. Propeller shafts are required to withstand the twisting forces between the motor and the propeller. The way a material resists twisting differs somewhat from the way it resists a straight pull. Some bronzes are very strong in resisting pull — or tension, as it is called — but are not as good when it comes to resisting a twisting or shearing stress. Best of all in this respect is steel, particularly the heat-treated steel alloys. For racing shafts the builder is forced to use alloy steel in order to take care of the great power without using a large diameter shaft. Cold-rolled steel has the same characteristics of rigidity as the alloy steel, but is less than half as strong otherwise. Monel metal is a fine shaft material. It resists the twist even better than cold-rolled steel and has a high degree of rigidity as well. For ordinary work the bronzes are decidedly suitable although they are not as strong as those materials previously mentioned. Stainless steel will undoubtedly increase in general use, for it is strong, has a fine bearing surface, and high rigidity.

Unfortunately, my personal reaction to the use of stainless steel shafts is none too good because of the trouble they gave when I advised their use some years ago on a stock boat. The trial shafts were as satisfactory as any material I have ever tested, but those which went into production and then out into the service of purchasers of the boats all gave trouble, due to the fact that the metal was not uniform. When used in salt water, certain spots would begin to corrode rapidly and then the shaft would break at those places. I understand that this fault has been corrected and that stainless steel which will stand any test is now available.

Ability to resist corrosion is a most important requisite of a good propeller shaft. In this respect there is nothing better than the high-grade bronzes and Monel metal. Stainless steel is good, also, but the alloy steels rust even more rapidly than does ordinary cold-rolled steel. Alloy steel cannot be used for shafting unless the boat is kept out of the water when not actually running, and the shaft must be flushed off with fresh water and then oiled or greased to protect it every time the boat is hauled out. Cold-rolled shafts will last a season or two in fresh water without requiring any special precautions, but usually they show considerable rusting even then.

I might recapitulate the considerations taken up in detail in the foregoing paragraphs somewhat as follows: For salt water use, either cruiser, high-speed commuter, or runabout, I prefer Monel metal. Except for the racing boat, it is the ideal material for the propeller shaft. But it is the most expensive material and is hard to machine. Next, and more than satisfactory in every respect, I rate the high-grade bronzes, such as Everdur or Tobin bronze. They are much less expensive than Monel and equally good as far as resisting corrosion is concerned. For racing craft — Gold Cup or Harmsworth class — nothing but the very finest alloy steel properly normalized and treated. And don't forget to have the alloy steel shaft examined by X-ray before it is finished to its final dimensions. It may be worthless on account of hair line flaws of almost microscopic size on the surface running deep into the metal.

In Chart 1 will be found the approximate size of the propeller shaft for different revolutions per minute and different horsepowers. Note that the horsepower which a shaft is able to transmit depends on the revolutions at which the propeller is turned. When a reduction or step-up gear is used between the motor and the propeller shaft, always select the shaft diameter for the speed of the shaft, not the speed of the motor. This chart, as drawn, shows, at the bottom, the diameter of the propel-

ler shaft and, at the side, the horsepower transmitted by the shaft. The diagonal lines correspond to the shaft revolutions. To use the chart in order to determine the proper shaft diameter for a given installation, start at the side of the chart with the horsepower and move over horizontally to meet the diagonal representing the r.p.m. at which the shaft turns, and then read the shaft diameter on the scale at the bottom. To illustrate, suppose the shaft turns 3000 r.p.m. and transmits 100 h.p. Following over on the 100 h.p. line and then dropping down to the diameter scale, it will be seen that the diameter should be a little over one inch. The actual diameter should be made 1⅛ inches in order to have a stock size for shaft log, couplings and bearings.

These diameters obtained directly from the chart are suitable for the shafts of stock runabouts and high-speed cruisers and are of high-strength bronze or Monel with bearings about four feet apart in the smallest size running up to eight feet apart in the larger sizes, as shown by the line which is marked "Span between bearing centers" on Chart 2.

When dealing with cruisers it is advisable to increase the size of the shaft a little as there is no great gain in keeping the diameter down. Use the chart in exactly the

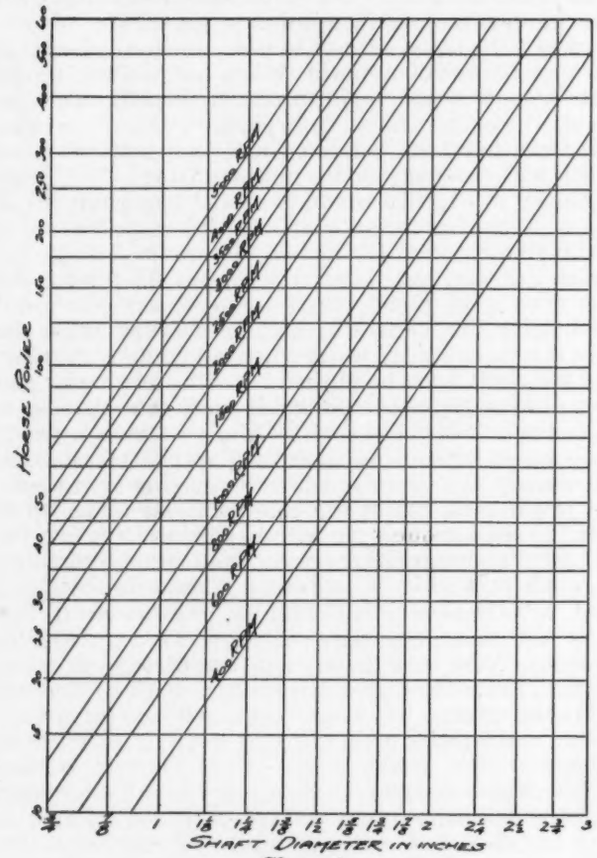


Chart 1

This chart gives shaft sizes for revolutions and horsepower

same way, but instead of using the actual horsepower, increase it by a third. Thus you should use the same size shaft for a 75 h.p. motor in a cruiser as for a 100 h.p. motor in a runabout. If the boat is a racing job and the shaft is of alloy steel, properly heat treated, the same chart is consulted, but instead of using the actual horsepower reduce it by half. For instance, a Gold Cup boat with a motor developing 350 h.p. at 3000 r.p.m. should have an alloy steel shaft 1¼ inches in diameter.

By far the greater share of the troubles with the propeller shaft is due to improper alignment. And this fault in alignment is more often than not entirely outside the control of the boat builder or designer. Every boat is a flexible structure. Being built of wood — for we are talking about the boat up to 60 or 70 feet in length — it is changing shape day after day. Even should the shaft be lined up after the boat is afloat, that is no guarantee that it will remain in proper alignment when the wood in the hull begins to shrink and swell. The owner is therefore responsible for maintaining alignment during the life of the boat and should not call down maledictions upon the head of the builder if it becomes necessary to readjust the motor on the engine bed. Until the good Lord grows trees which are all alike and have the same characteristics, it will be impossible to put a wooden structure into the water, allow it to stay there, soak up, and remain in its exact original shape.

Of recent years there has been much improvement in propeller shaft bearings and in shaft logs, particularly for high-speed runabouts and other lightly built boats. It is not uncommon to see the motor of a runabout installed with the coupling only a few inches ahead of the stuffing box on the shaft log. Barely sufficient space is allowed to back off the gland and put packing into the stuffing box. Then a few inches abaft the box a liberal bearing is made in the shaft log. But this is unsound engineering. Due to the inclination of the propeller shaft, it is the usual practice to permit the after end of the motor to project aft a foot or so beyond the last bolts which hold the motor to its bed. The smallest change in that bed produces a magnified displacement of the coupling. But the propeller shaft, projecting as it does only a few inches ahead of the bearing in the shaft log, is heavily stressed by a slight displacement at the coupling. This produces a heavy pressure on that bearing, which is sure to over-heat and may even seize or split the log and has even been known to break the shaft.

According to the latest improvements, no fixed bearing is provided in the log other than that just sufficient to hold the packing in the stuffing box. Many are the schemes for permitting the stuffing box to find the true shaft center and thus avoid excessive pressures at that point. By all means see that something of this sort is fitted in your boat. As this plan removes a support from the shaft and increases the span between bearings, it may be necessary to put a small strut on the outside of the hull, thus making a bearing midway between the engine coupling and the bearing in the main strut to prevent whipping of the shaft.

Sometimes a universal joint is used for the purpose of taking care of any shaft misalignment. But unless it is a most unusual type of universal, it will do nothing of the sort. Two joints are needed to achieve this result. As there is seldom room in the runabout for two joints, and for the thrust bearing which must always be placed on

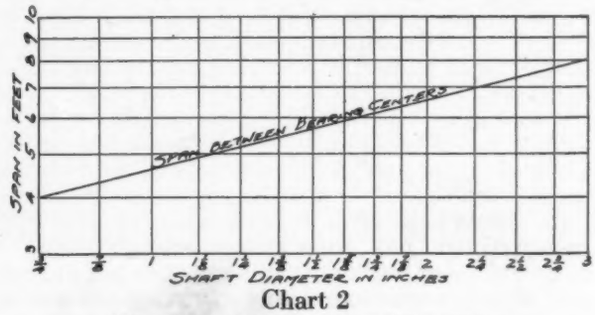
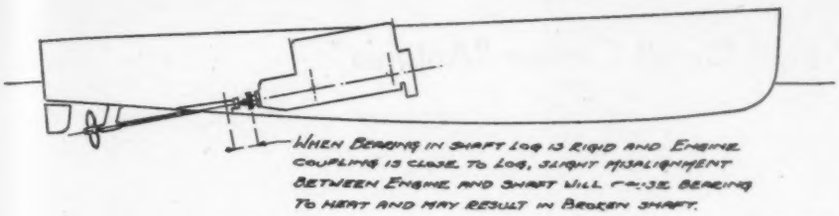


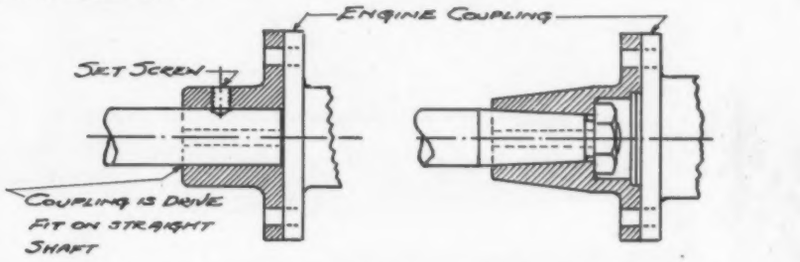
Chart 2

Approximate distance between shaft bearings


WHEN BEARING IN SHAFT LOG IS RIGID AND ENGINE COUPLING IS CLOSE TO LOG, SLIGHT MISALIGNMENT BETWEEN ENGINE AND SHAFT WILL CAUSE BEARING TO HEAT AND MAY RESULT IN BROKEN SHAFT.

Left. A rigid bearing in the shaft log is poor design when the motor is close to the log

Below. Two forms of propeller shaft couplings



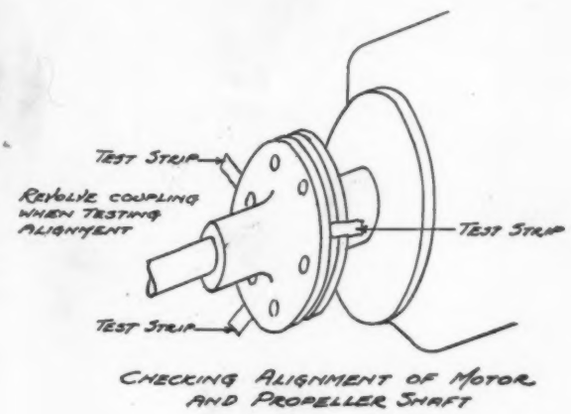
the propeller side of the aftermost universal, I cannot advise using any such joints in the propeller shaft line. With a Vee drive, however, it is another matter, and such joints should be placed between the motor and the gear box in order to avoid setting up heavy stresses on the shafts and bearings of the gear box and the motor.

The propeller is forced up on the tapered end of the shaft, fixed by a key and retained by a nut behind the propeller hub. The standard taper used is ¾-inch in diameter for each foot of length along the shaft. This was determined upon because a smaller amount would make it far more difficult to remove the propeller and, in cases where the thrust of the propeller is large, would produce a greater stress, tending to burst the hub. If the taper were more than the standard amount, the propeller would be more apt to come loose on the shaft and have a tendency to wobble. The proper length of the tapered portion of the shaft can be found in the booklets published by any of the propeller manufacturers and the tables given show the proper size of key and the thread for the propeller nut. Fortunately, this is one of the few details of boat equipment which has been standardized.

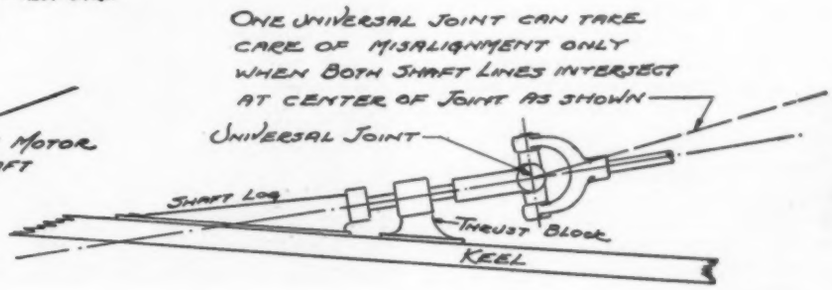
Two types of flange couplings are used to connect the shaft to the motor. When the power is moderate and cost is a consideration, the coupling is driven up on the shaft without any machining other than a keyway to prevent the shaft turning in the coupling. This is quite satisfactory provided the coupling is bored exactly the correct diameter for a drive fit and is neither too tight nor too loose — and provided that the mechanic who puts it on the shaft does it without cocking it over so that the flange is not truly square to the center line of the shaft. This last is a common fault and a rather serious one because the flange of the coupling is used to check the alignment of the shaft and the motor.

A much better way to fit the coupling at the fore end of the shaft is to use a taper exactly like that used for the propeller and draw the coupling up on the shaft with a nut. When this is done there is no chance of having anything but a true flange. There is an additional advantage due to the fact that the shaft can be reversed, end for end, if it shows wear at any of the bearings. But it does cost a little more to use this method than the first one mentioned.

Alignment between the motor and shaft may be checked while the boat is afloat and should be done each season after the boat has been in the water for a couple of weeks and has had time to swell to shape. Do not attempt to do it as soon as she is launched unless the bearing at the shaft log shows signs of heating. In that case make the check immediately. To check the alignment, remove the bolts from the coupling and force the shaft aft about a sixteenth of an inch so that the two flanges are separated slightly. Then take three small strips of shim brass — or even of strong bond paper — and place them equally around the circumference of the flanges, pulling the shaft forward to grip them. If the motor and shaft are in line, all three pieces will be held in place, but if out of line there will be an open space at some part of the circumference and the motor must be raised, lowered or shifted until the test strips show that the faces of the flanges are exactly parallel.

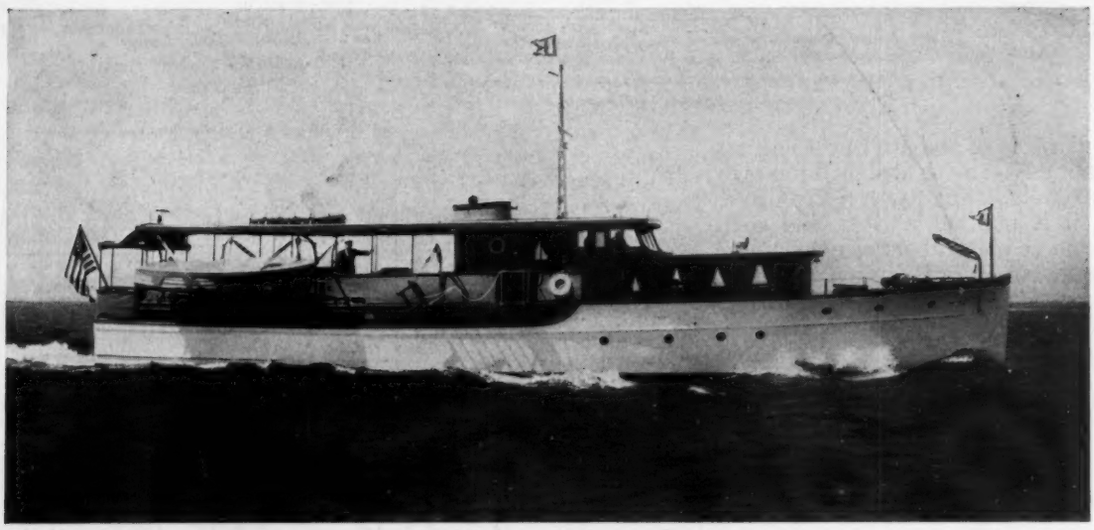


Above. To check alignment, remove bolts, slide propeller shaft slightly aft and use test strips. Also, use straight edge over the outside of coupling flanges

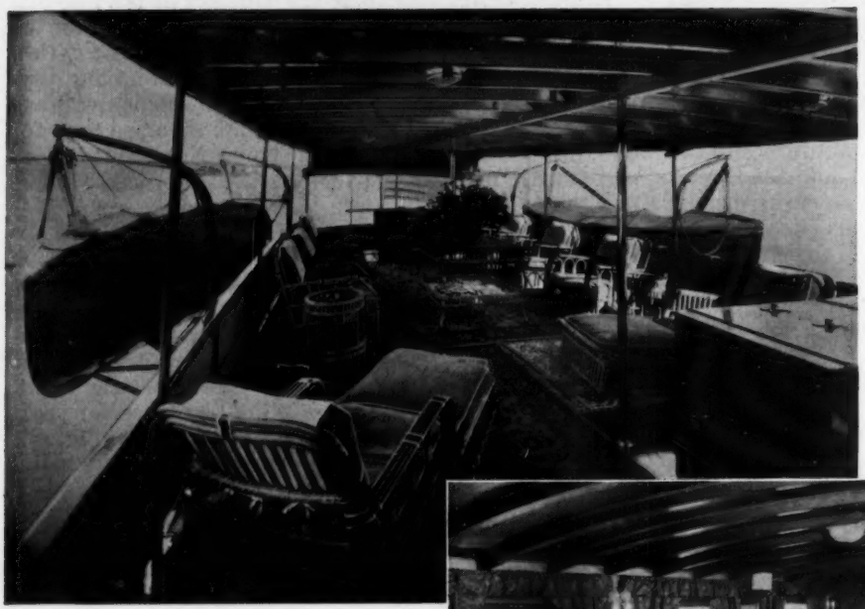

ONE UNIVERSAL JOINT CAN TAKE CARE OF MISALIGNMENT ONLY WHEN BOTH SHAFT LINES INTERSECT AT CENTER OF JOINT AS SHOWN
UNIVERSAL JOINT
SHAFT LOG
THRUST BLOCK
KEEL

A single universal joint is almost useless in correcting misalignment

The 77-Foot Diesel Cruiser "Antonia"



Launched last fall, "Antonia" was designed and built for Frank Feeney, of Philadelphia, by the New York Yacht, Launch & Engine Co. Two 100 h.p. Standard Diesels furnish the power and drive her 14 m.p.h. "Antonia's" well proportioned hull is that of a fine cruiser with seagoing qualities



On a length of 77 feet "Antonia" provides unusually spacious accommodations. As the reproduction above indicates, the broad after deck, with comfortable deck chairs, permits of commodious lounging quarters. Forward, in the raised deck house, the warmly decorated dining salon is also indicative of roominess and comfort.

Back to the Water

+

Some Ways and Means of Maintaining a Boat and Living Afloat

+

By

CARL L. WEAGANT

THERE is a growing popular interest and desire in these days of reckoning to get back to the water — to seek relief from the hustle and bustle of this complex age in the peace and romance offered by the simple and healthful life afloat. But, although the spirit animating this idea is strong, finances are weak, and for this reason the man of average means is inclined to believe that yachting is beyond his reach, and even those who already own boats are doubting the wisdom of keeping them in commission. It is the purpose of this article, therefore, to correct this impression, to show how the boating budget can be balanced and to point out ways and means for those who would answer this call back to the water.

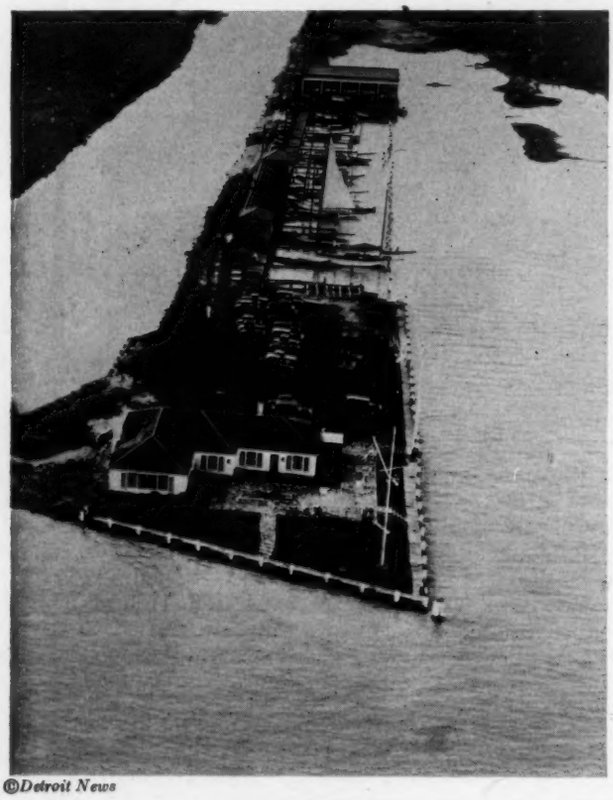
The primary problem comes in the initial cost of a boat. Viewed from a purely practical standpoint, it can be shown that this expenditure, contrary to general belief, is, to begin with, a fairly good investment. A classic example is the story of a wealthy yachtsman, who, in the days of the boom, ordered a million dollar yacht and paid for it by cashing a large block of industrial stock. Shortly afterward he died, and eventually the estate sold the yacht for $200,000, taking a loss of $800,000. But at the time the boat was sold the value of the stock which had paid for the yacht was only $150,000, so that the investment in the yacht saved the estate $50,000. While this case does not embrace the type of yacht with which this article is concerned, it does, however, represent the worst in the depreciation of yacht values, because the larger and more expensive the boat the more it suffers from deflated values. Yet even the ownership of one of these big yachts proved a better investment than good industrial stock.

The medium-sized power cruiser or auxiliary has suffered a much smaller ratio of depreciation than the bigger yacht; in fact, in many instances the deflation in value of this type of yacht has not been as great as in the case of good real estate. Typifying the soundness of an investment in this class of boat is the story of an owner of a 32-footer who was accused of selling his boat short. He sold her and about six months later bought her back again at a lower figure. He rushed to cover, and for good reason. The investments which he had secured with the proceeds of the original sale decreased to such an extent that he figured it would be better to convert them back into his boat. And he did so wisely, because even now he could sell his boat for twice the value of those same securities. But he doesn't want to sell his boat because he feels that his investment in her is as secure as anything else, and when conditions improve the value of the boat will increase in proportion to other property. Meanwhile, he has the use of his boat and, if worst comes to worst, he would have an unmortgaged roof over his head and a ticket to the South Seas or to any other place where food can be had for the picking.

Other cases of this kind might be pointed out but these two serve to show that money invested in yachts, particularly in those of the utility cruiser type, has been well secured despite the fact that the price of yachts is much lower. Moreover, because of the present low prices, the value of a yacht bought now should, if property values rise at all, increase in proportion. The newcomer to yachting is often under the impression that a boat is like an automobile which once purchased can never be sold again for anywhere near the purchase price, and that its life is limited to four or five years. Any boat owner knows that with reasonable care a cruiser has a life of fifteen to thirty years and that boats have often sold, years after their purchase, at a figure higher than their cost.

So the initial investment in a boat can be regarded as one that is as sound as almost any other investment in property. And this year's low boat values probably present the best opportunity for boat buying that we may ever know; with the eventual uptrend of business there should be a widespread demand for boats by the countless numbers who can no longer find pleasure on the crowded highways ashore and are turning to the water. Boat values are bound to rise, and for this reason present boat owners would be wise to hold on to their floating securities.

At first thought it may seem rather naïve to regard a boat as an investment since it pays no dividends. However, disregarding the intangible dividends in pleasure, boats have been known to pay their owners fat monetary returns. I know of a boat which paid a dividend of fifteen per cent on its 1929 value. This reads like past history, yet this occurred during the past depressed summer. The owner of this boat was up against it, couldn't sell his boat and no one would lend him money on her, but he found, to his surprise, that there was a big demand for chartered boats. He chartered his and she was engaged from the first of July to the first of October by six different parties who paid $100 per week. When the season closed the owner had paid for all maintenance and found that he had made fifteen per cent on his original investment.



©Detroit News

The Bayview Yacht Club, at Detroit, provides means for hauling out and refitting members' boats on the club grounds. With boats moored in the slips, owners can live aboard, hard by the Club which is the center of summer social activities

Summing up the foregoing, it appears that a yacht is not so much of a liability as it is commonly considered; nevertheless, many people who would like to get afloat, and would willingly put the money into a boat, are plainly unable to do so. But this does not necessarily bar them from participating, since boats are always available for charter. A boat accommodating four or five can be chartered for around $100 per week, or $200 for a two weeks' vacation. Immediately a man and his family, or a group of friends who have arranged to meet the expenses jointly, step aboard, they are in their vacation residence, with all outdoors at their threshold, an inviting swimming or fishing pool at their disposal, no hotel bills to pay, and free to travel as far as time will allow without paying railroad fare. The only additional expenditure required is for food, fuel, if the boat is a power cruiser, and a few other miscellaneous items. The entire expense would compare favorably with the cost of any two weeks' vacation in the country or at the seashore.

Following the ownership of a boat — and in this article we are considering mainly the type of cruiser or auxiliary that is large enough to live aboard — the next problem is that of maintenance and operating expenses. The one and certain solution to this problem is to live aboard, thus cutting out all living expenses ashore. And living on the water can be cheaper than living ashore. An illustration of this method of living, although it represents the extreme, may be taken from the experience of Harry Pidgeon, who has lived for years aboard his 38-foot yawl *Islander*. He was once asked how the depression was affecting him.

"Oh! The depression," he replied, "why I am just a spectator; it hasn't affected me in the least. In fact, it is to my advantage because the only thing I have to buy is food and that is cheaper."

In the winter the boat can be taken south and used not only as a means of transportation but as the winter residence as well

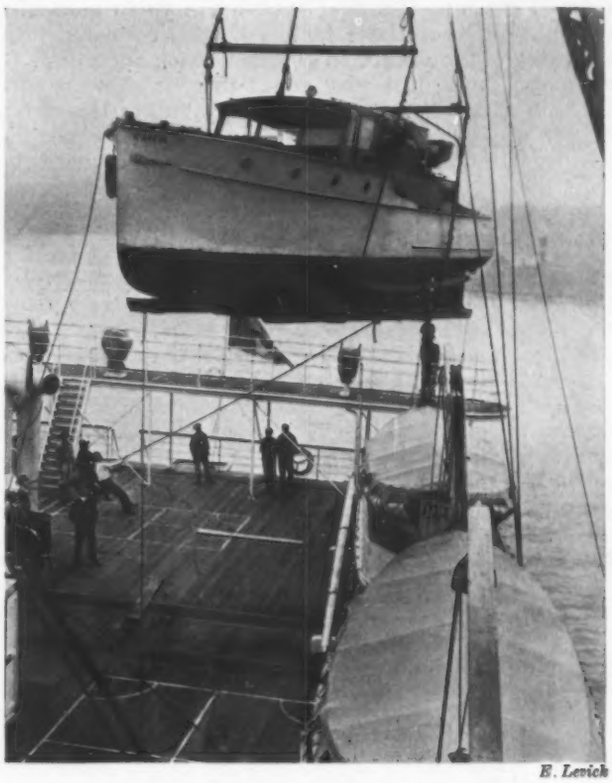
Harry Pidgeon's living expenses must be less than $25 per month. He has no rent or mortgage to pay, no taxes, heat can be provided by driftwood gathered along the shore, if he is north. But why should he stay where it is cold when he can move his floating home south? Even a portion of his food can be taken from the sea. Repairs on the boat he can take care of with his own hands, and all he needs to buy is a quart of paint now and then. And he possesses the means to travel about the world at no additional cost.

Of course, few people would want to live or travel around the world in a 38-foot boat, nor can they leave business to live this sort of life, but they can, during the summer, approach this utopia. In fact, some people live afloat the year 'round and commute to their offices. I know of a young couple who recently bought a boat large enough to live comfortably aboard the year round. They have figured that they can pay for the boat with money which otherwise would be absorbed by rent payments. The boat will be moored during the winter at a pier in a sheltered cove on the Connecticut shore. If desired, running water, electricity, and even a telephone can be installed. In this way they are not isolated, and the boat is large enough to provide all the comforts of home — as large, certainly, as the usual city apartment. During the summer vacation they can weigh anchor for Bermuda, or anywhere, and live the life of a king and queen on a commoner's pocketbook.

Everyone cannot or might not care to live this way the year 'round, but it is being done by many during the summer. By renting the house ashore, or by vacating a rented house during the summer, a man and his family can live afloat and maintain a boat out of the consequent savings. Or, instead of sending the family to the country for the summer, a man can have his family together on the water, where they can enjoy all the advantages of a summer resort. If he has business to attend to there are many fine harbors within reasonable commuting distance of most of the big cities. Before catching the commuting train there is always time for a refreshing plunge over the side, and in the evening there is the peace and quiet of the water to rest tired nerves. Each week-end becomes a short vacation without all the hustle and bustle of packing and unpacking; everything is on board, ready to go the minute one steps aboard Friday night.

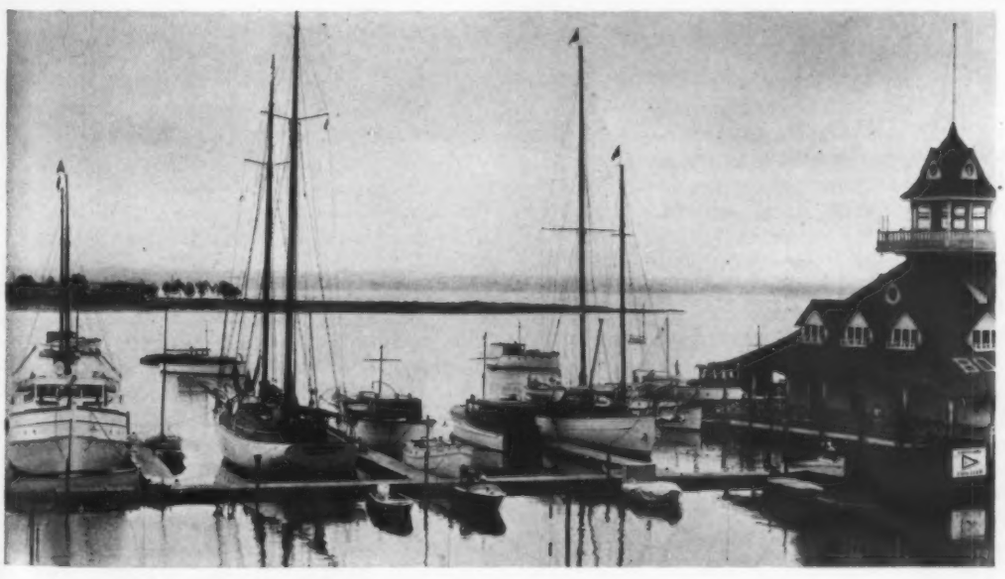
To many people, however, living afloat seems too much like camping out and in the past this was unquestionably true. Then a cruise was just as much of an undertaking as was a tour in an automobile in days when "Get out and get under" was a popular song. But as the automobile has grown out of that stage, so has the modern cruiser, with all the improvements in engines, accessories and servicing facilities. Of course, there are not all the comforts of home to be had on a small cruiser — there is, for instance, no telephone, but that in itself is one reason why living afloat is popular. To live afloat comfortably does, however, present problems, and this art of living afloat is not widely understood and therefore is worthy of study.

The foremost difficulty of living on the water is isolation. No family wants to be confined to a mooring all summer, dependent on getting ashore in a rowboat or



E. Levick

Steamship lines offer attractive rates for boats when accompanied by owners and guests, and in this way a boat owner can take his floating home anywhere in the world



The Coronado yacht basin provides floating slips for yachts, thus solving, on tidal waters, the problem of isolation which a mooring offshore presents

by means of club launches which do not run regularly. On waterways where there is deep water up to the shore and where there is little or no tide, as on the lakes, the solution is simple. The boat can be tied to the shore, or to a pier, and the problem of access to the shore is solved. Most yacht clubs on the lakes provide slips for their members and those living aboard are not only close to the center of social activity during the summer, but have space to park an automobile and access to the telephone, if necessary. Where the tidal rise and fall is appreciable, the problem of tying to the shore is not so simple. However, some clubs have already built floating slips, as one of the accompanying photographs indicates, and in time this problem of isolation can be solved in this manner.

In order to live afloat comfortably a bath tub or shower is a necessity and this facility is usually lacking on small cruisers. If a boat is tied to a yacht club slip, the club provides these facilities, but, even so, it is something of a nuisance to go ashore with one's duds to bathe and dress. But why aren't tubs or showers provided on small boats? Instead of providing this need, cruisers are too often built to sleep as many people, end to end and one above the other, as possible, with the result that everyone is crowded into discomfort. Space is limited, of course, but this necessity could be provided as in most cruisers there is room for a shower or small sitdown tub which conforms to the sides of the hull.

Cooking on board is certainly not the difficult task that it used to be. With the modern liquified gases clean heat is as readily available as with city gas. Fuel oil burners and the good old-fashioned coal range offer alternatives. Mechanical refrigeration, the latest modern improvement for the home, is just as simple to install in a boat and can be operated either by electricity or by various fuels.

Another modern convenience which is of even more use on a boat than in the home is the radio. If you are off an a cruise, out of touch with newspapers, you can still keep in touch with events over the air. Fine music or good entertainment is to be heard no matter where you are, and nowhere that I know of does music ring so clear and true as it does over the water. And where can music bring more inspiration than on board a trim cruiser following up the path of the moon on a warm summer night?

In review, it appears, then, that a boat is a wise investment and that the expense of maintaining it can be brought within the reach of the average man's pocketbook if he will use his boat for a home. And, if the practical problems can be solved in this or any other way, why not answer this call back to the water, where life is full, living cheap and the spirit can find peaceful freedom beneath the sun and stars?

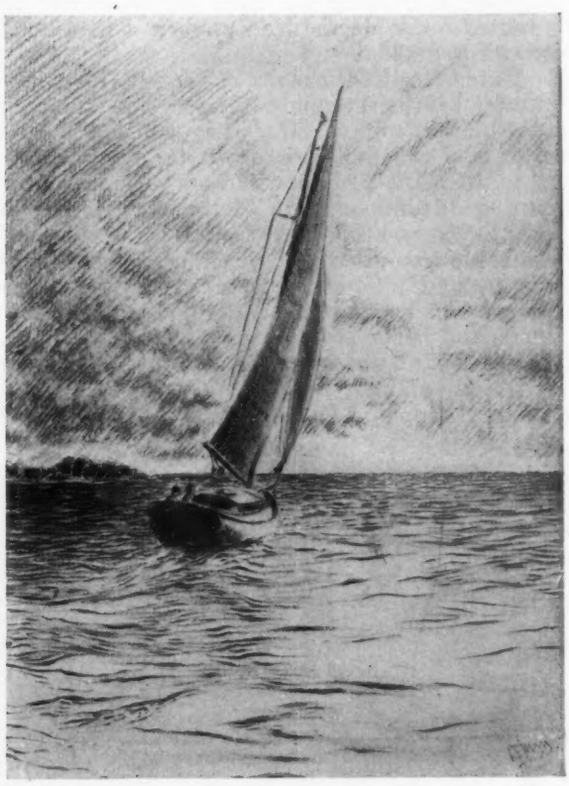
Pipe Dreams

WE'VE stowed the canvas cover now,
The yacht's afloat once more,
It's good to walk a rolling deck
Instead of solid shore;
A clear blue sky is overhead,
And green salt sea below,
There's a sparkle in the offing
Where the waters dance — let's go!

The anchor's up, the decks are clear,
Our sheets are flattened home,
And we head for open water
Where the whitecaps race and foam;
There's the old song in the rigging,
Windward shrouds are straining taut —
We're off for the horizon
And a distant, misty port!

She's reeling to the crested tops
And plunging to the trough,
Sheets of spray fly out to leeward
As she hurls the water off;
Oh, we've made a handsome offing
And the good ship's staunch and tight.
Broad sea miles will stretch behind us
When we make our port tonight.

A trim yacht dips her colors
As she rolls by, running free,
And a sturdy working schooner
Marches eastward, far a-lee;
The decks are wet and shining,
All the straining cordage sings;
Fleet hours are passing all too fast,
Like gulls on rapid wings.



As the purple shadows lengthen
And the breeze is softening down,
We glide into the harbor
Of a little fishing town.
Now the riding light is glancing
Upon varnished deck and spars,
While wavelets lap the quiet hull
Beneath the summer stars.

ALFRED STUART MYERS

The Bermuda Sloops and Dinghies

The Development of a Type Taken over from Jamaica, and of the Bermuda Dinghy

By H. I. CHAPELLE

IN THE early part of the seventeenth century the shipbuilders of Jamaica developed an interesting type of sloop. During the whole of the seventeenth and most of the eighteenth centuries the Caribbean Sea was a hotbed of piracy and warfare. Buccaneers, pirates, privateers and naval cruisers of many nationalities cruised among the West Indian Islands, or along the coast of the mainland, and no vessel was safe from capture. As a result fast sailing craft were in great demand; to meet the existing conditions the "Jamaica Sloop" was developed and soon became very popular.

Bermuda rose in importance as a shipbuilding community soon after being colonized. Having a local timber, a species of red cedar, excellent for shipbuilding purposes, the Bermudians soon became shipbuilders for all the British West Indies. By 1700 they had taken over the Jamaica Sloop and had made improvements in the original model. Jamaica soon lost its importance as a shipbuilding center and within a few years the type formerly known as the "Jamaica Sloop" was called the "Bermuda Sloop."

Because of the speed of these sloops, the British Navy bought them for small cruisers, and the traders, privateers and pirates procured them whenever possible. Not only were the Bermuda sloops well thought of in the West Indies, but they soon had a great reputation in Europe — so great, in fact, that the famous Swedish naval architect, Chapman, thought it necessary to include the lines of a 'Mudian in his monumental work "Architecturia Mercatoria Navalis," published 1763. The type was also well known in North America, and there is some indication that the Baltimore clipper schooner was a development of these sloops.

From the time of the American Revolution to about 1800, schooners gained in popularity, while large sloops lost ground. However, the Bermudians continued to be built for another forty years. These sloops differed little in rig from the contemporary New England boats except in having a more raking mast. Their hulls were broad and deep, there was much drag to the keel and quite a bit of rake to the stem and sternposts. Sometimes they were of large size; a length of 75 feet on deck was not uncommon as early as 1750. The early models had high bulwarks and raised quarterdecks; later vessels were flush-decked and were usually without bulwarks other than the common log rail.

To illustrate a typical Bermudian sloop of large size, Figure 1 shows the lines of the *Lady Hamond* as taken off for the British Admiralty in 1804. At this time the Royal Navy was in need of small and fast cruisers, and purchased certain fast vessels to be used as models. First they bought a small Bermudian schooner named the *Haddock* and built some thirty copies. These proved too small, so they procured the sloop *Lady Hamond*, added bulwarks, and built a dozen copies. To these they gave rather fanciful names, as follows: *Alphea, Alban, Adonis, Bacchus, Barbara, Cassandra, Claudia, Laura, Olympia, Sylvia, Vesta* and *Zenobia*. These (as were fifteen of the *Haddock* class) were built at Bermuda by the Messrs. Goodriche of St. Georges. The sloops were quite successful, though rather small for the purpose. One or two were rerigged as schooners, but the majority remained sloop-rigged throughout their whole existence. Some of the class went to European stations. The *Alphea*, for example, is noted as having blown up in action with a French privateer on the coast of France, another appeared in the East Indies, and the *Laura* was captured by an American privateer in the War of 1812. The *Lady Hamond* is an interesting design, showing that even at that early date, the advantages of a slightly rockered keel and raking sternpost, as well as of rising floors, high and hard bilges, and long run, were well known.

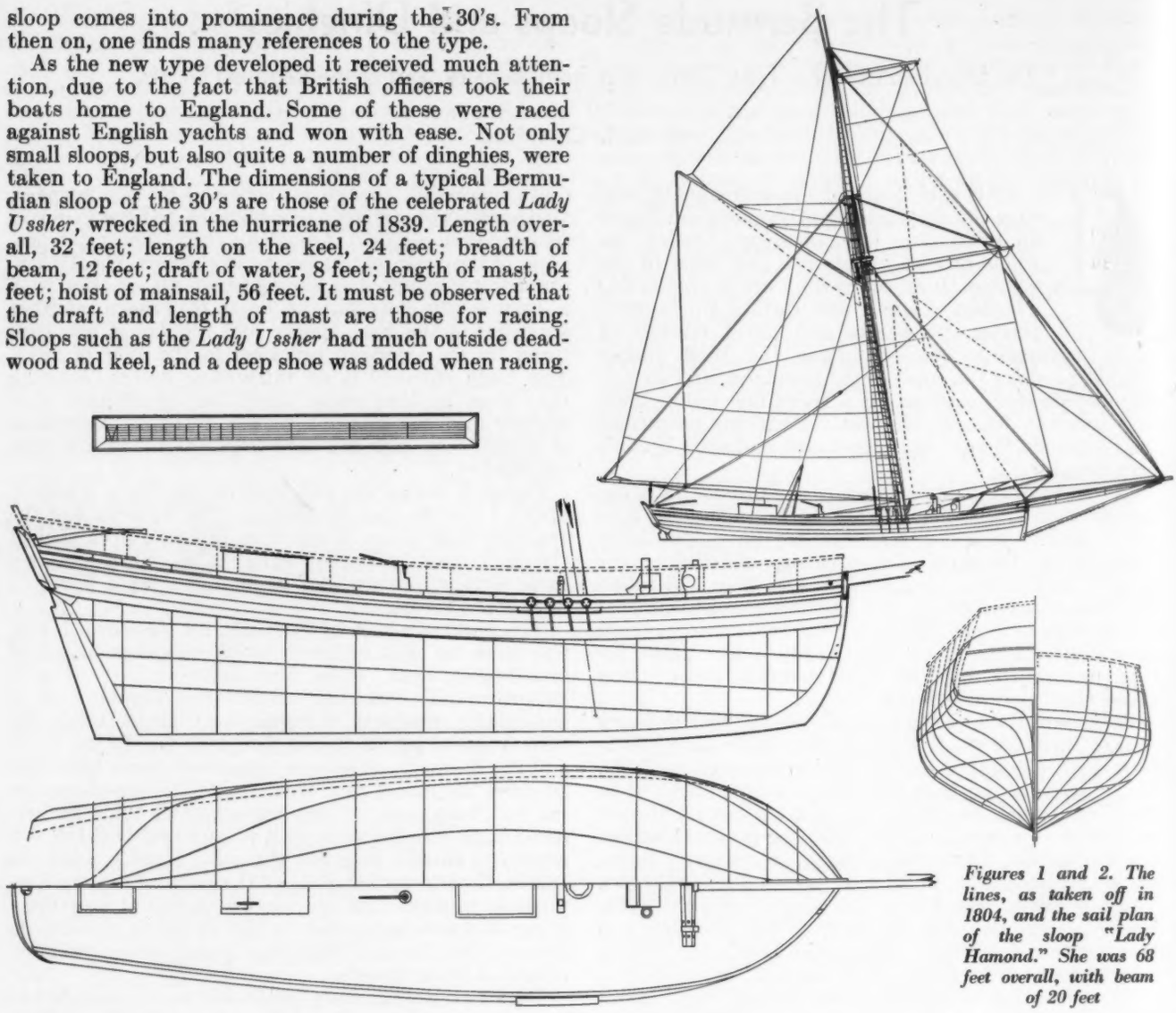
Figure 2 shows the sail plan of the *Lady Hamond*, drawn from the spar dimensions. The rig is that of the ordinary large sloop of the time, differing from that of the contemporary English cutter in having the mast a little farther forward and in having a fixed bowsprit instead of a reefing one.

The next class built in Bermuda, for the Royal Navy, was made up of five three-masted schooners, about 80 feet long on deck. These were built on the lines of a Baltimore-built schooner named the *Flying Fish*, a beautifully modeled three-master. These schooners turned out to be the fastest vessels in the Royal Navy and the Bermudians were so taken with them that they adopted the model as a local type. The leg-of-mutton sail had been used on two-masted small boats at Bermuda since colonial days, so it was natural that the new schooners should be given the same rig. Up until the 1830's, the three-masters were the popular type in Bermudian waters. The old sloops slowly disappeared, many of them being sold to the Brazilian slavers. As late as 1840, the old Bermudian topsail sloops are mentioned as being slavers.

With the passing years the timber on the islands had been pretty well cut off and the demand for Bermudian-built large craft had ceased, due to the competition of the Baltimore and New England builders. In the 1830's only small schooners and a few small sloops were in existence at Bermuda; the officers of the British garrison and naval officers on the station amused themselves by racing the small three-masted schooners. There is a legend to the effect that one officer, the Honorable H. G. Hunt, having lost a schooner race, came to the conclusion that a leg-of-mutton-rigged sloop would beat the schooners to windward. The conditions of weather and water at Bermuda had much effect on racing, as the steady winds permitted the use of large rigs and the many narrow channels between the islands put a premium on windward ability. The ability to shoot a long way in stays was another desirable quality. According to the story, Hunt built the sloop and tried her out against a schooner at midnight before challenging the schooner that had beaten him. Being successful in both races, he drew the attention of his brother sailors to the possibilities of this type of sloop. As a result the schooners were all replaced by the leg-of-mutton-rigged sloops. I have not been able to learn the date of this incident and cannot vouch for the truth of the yarn. It is apparent that it must have occurred either in the late 20's or early 30's, if true. At any rate, the leg-of-mutton-rigged

sloop comes into prominence during the 30's. From then on, one finds many references to the type.

As the new type developed it received much attention, due to the fact that British officers took their boats home to England. Some of these were raced against English yachts and won with ease. Not only small sloops, but also quite a number of dinghies, were taken to England. The dimensions of a typical Bermudian sloop of the 30's are those of the celebrated *Lady Ussher*, wrecked in the hurricane of 1839. Length overall, 32 feet; length on the keel, 24 feet; breadth of beam, 12 feet; draft of water, 8 feet; length of mast, 64 feet; hoist of mainsail, 56 feet. It must be observed that the draft and length of mast are those for racing. Sloops such as the *Lady Ussher* had much outside deadwood and keel, and a deep shoe was added when racing.



Figures 1 and 2. The lines, as taken off in 1804, and the sail plan of the sloop "Lady Hamond." She was 68 feet overall, with beam of 20 feet

From the 30's to the 80's, the Bermudian sloops, with their towering rigs, were popular in the islands and were well known in England, though less well known in the United States. Apparently, a type so close to home was not considered worthy of attention by American yachtsmen. As a result, the good qualities of the leg-of-mutton and overlapping jib were not studied until very recent years.

The models of these sloops varied but little as to lines. Figure 3 shows the lines of a typical Bermudian sloop, taken off by an Englishman, a Mr. Wm. Prattent, about 1870. This gentleman was also the draftsman who drew the lines of another Bermudian, the *Diamond*, shown in Dixon Kemp's "Manual Of Yacht And Boat Sailing," 4th edition, London, 1884, and also in other editions of the same work. The only appreciable difference between the boat shown in Figure 3 and the *Diamond* is in dimensions and in the shape of the stem; the *Diamond* had a clipper bow. The *Diamond* had a little less sheer and measured 39 feet 6 inches overall, 34 feet on the waterline, 11 feet 2½ inches beam, 5 feet 10 inches draft, and 6 feet 6 inches when racing. Her racing mast was about 6 feet longer than her working mast, the halliard for the racing mainsail being at the masthead. The example is apparently a working boat and is a few inches wider than the *Diamond*, as well as a little shorter and deeper. Her length overall is 37 feet 4 inches, 11 feet 6 inches beam, 6 feet 3 inches draft. The dimensions of another contemporary are those of the *Julia*, 20 feet 9 inches overall, 8 feet beam, and 5 feet draft. The dimensions of still another are those of the *Undine*, pictures of which were published in YACHTING (July, 1927). Length overall, 23 feet 10 inches; length on the waterline, 21 feet 7½ inches; beam, 8 feet 2½ inches; depth of hull, 4 feet 6 inches; draft, 4 feet 6 inches; hoist of mainsail, 43 feet 6 inches. *Undine* and *Julia* had clipper bows, but it is said that *Undine* had a straight stem when new; her stem rabbet was straight, whereas that of *Julia* was curved and flared outward.

The lines in Figure 3 show a fast sailing hull of moderate power. Photos of *Undine* show a very similar hull form. There was no hollow in the garboards amidships and only moderate hollow in the entrance. The construction was said, by contemporary writers, to have been rather rough, and the finish of the hull poor. The frames were double, sawn, and closely spaced. The scantlings were large, but due to the lightness of the Bermuda cedar the hull was light and a large proportion of ballast to displacement was carried. The ballast was

wholly inside and was composed of lead or iron pigs. When racing, some ballast was shifting. The deck arrangement depended upon the size of the boat, the larger sloops had a trunk forward, sometimes removable. The smaller boats merely had two hatches, one of which served as a cockpit. There were no bulkheads and the sloops sometimes swamped when racing. Fastenings were always of copper.

Figure 4 is the sail plan and shows the typical rig of the Bermudians. The mainsail was loose-footed, and when racing was laced to the mast; some boats employed a headboard, while others had short yards or gaffs. An outhaul was not used to flatten the mainsail; rather, the main boom was really a sprit and was handled in the same manner as the sprits of the New Haven sharpies. A guntackle purchase at the fore end of the boom supported it and acted as the outhaul. The jib was set on a stay in the larger sloops, but on the small boats it was set flying. The jib-topsail was similarly set, to a jibboom. The jib always had some overlap and both jib and jib-topsail sheets led through the rail. When the racing mast was shipped it was usual to set up a shroud on each side, but no shrouds were considered necessary with the working rig. One of the most interesting things about this rig, however, is the peculiar topsail which was set when going free in fine weather. The topsail was simple and easily set; it is curious that no one has employed this sail on a modern jib-header. The spars were of imported white spruce.

To show the opinion prevalent among English yachtsmen as to the qualities of the rig, it will be instructive to quote H. C. Folkard's book "The Sailing Boat," third edition, London, 1863. On page 278 the author says: "The Bermudian rig ought not to be extended to vessels above eighteen tons, because any mast fit to carry a proportionate area of canvas would be too ponderous for its position. It is unquestionably a superior mode of rig, and if not one of the fastest in the world, is considered as unequalled for working to windward in the smooth water; but in a sea way the lofty peak is not so effective. These boats are said to sail nearer the wind than cutters; this, and the quickness with which they tack, would seem to make up for any deficiency of speed on the bowline." This opinion was little different from that often expressed as to the desirability of modern jib-headers.

At the same time that the sloops were being developed a small boat was becoming popular. The importance of the small boats was greatly enhanced in the year 1840 by the victory of the *Alarm*, 13 feet long, over a celebrated sloop 25 feet long. In a light breeze, the *Alarm* worked three miles to windward in 36 minutes. These small boats were a development of the ordinary ship's boat, wholly open and fitted with a deep false keel or shoe. So popular did these boats become that a racing rule was formulated which put a limit on the size of their hulls. The small boats were known as dinghies and continued in use long after the sloops ceased to be built. The competition among the dinghies was keen and quite a number were designed in England. Dinghies were taken to England and carefully studied. For years these boats were believed to be the fastest small boat possible and it was not until Larry Huntington designed the half-rater *Paprika*, which was taken to Bermuda and which cleaned up the dinghies in short order, that this was questioned.

Figure 5 shows a typical Bermudian dinghy, except for a more cutaway bow than is usual. This boat was

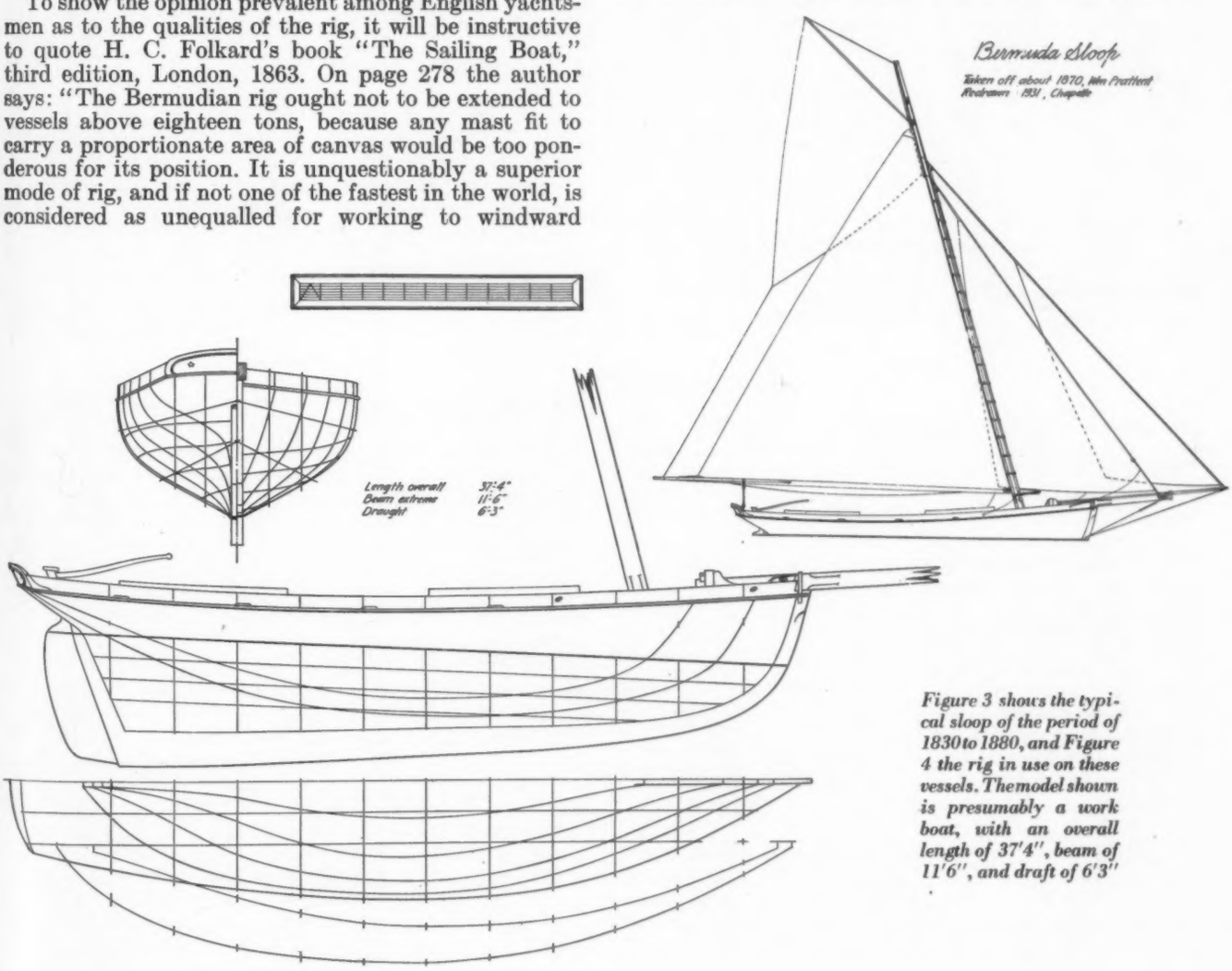


Figure 3 shows the typical sloop of the period of 1830 to 1880, and Figure 4 the rig in use on these vessels. The model shown is presumably a work boat, with an overall length of 37'4", beam of 11'6", and draft of 6'3"

built in Bermuda, in 1887, for a Captain Fitzgerald. There is no information as to who designed her; apparently, this was done in England. The lines show a rather shapely hull, which plainly was influenced by the ship's boat. The frames were sawn and the construction was similar to that of the present Bahama dinghies. Like the sloops, the dinghies were built wholly of cedar and their topsides were likewise oiled and varnished. The underbodies of both types were copper painted. The most remarkable feature of the dinghies was the keel. Originally of wood, it developed into a veritable fin made of iron plate. Most dinghies had two removable keels, one for racing, of iron, and a smaller one of iron or wood for ordinary sailing. Sometimes the racing fin took the form shown in the plan, while in others it was merely a rectangle. The early dinghies had longer and shoaler wooden shoes, much curved in profile. Ballast was lead and was shifted to windward when racing. Four men constituted the racing crew. The favorite course was the "Old Bermuda Course," six miles to windward and a three-mile run.

Figure 6 gives the sail plan of the dinghy shown in the lines. The rig was always the same, though there were slight variations in proportion. A racing dinghy carried from 375 to 390 square feet of sail in mainsail and jib combined, and about 180 square feet in a spinnaker, on a hull 14 feet overall and 4 feet 8 inches in beam. In amount of sail carried in proportion to size, the Bermudian dinghies were surpassed by some of the Australian boats only. Except in their size, the rig of the dinghies offers no unusual features. The mainsail is similar to that of the sloops; the jib is set flying with single part halliards. From photos, it is judged that the jib stood well. The mainsail was laced to the mast and could not be reefed.

Both types are practically extinct today. The Bermuda cedar has totally disappeared and lumber has to be imported into the islands. As a result, boat building died out some years ago. Local boats and yachts are now imported from America and England and a visit to Bermuda in search of the old types is useless. It is a pity that the old Bermuda boats have not been retained as they would make fine yachts if slightly altered and modernized.

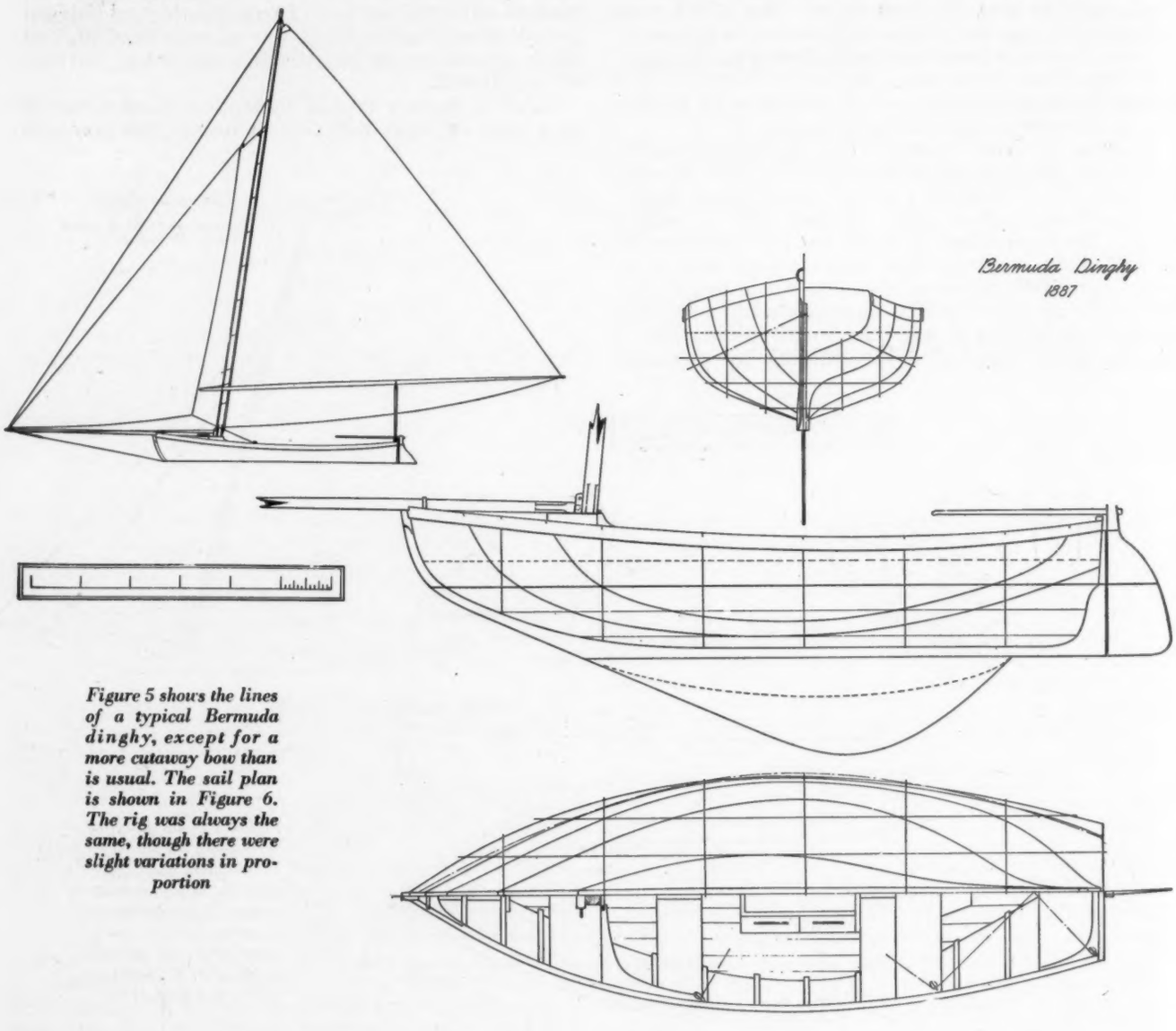


Figure 5 shows the lines of a typical Bermuda dinghy, except for a more cutaway bow than is usual. The sail plan is shown in Figure 6. The rig was always the same, though there were slight variations in proportion

Along With the Frostbiters

Ellsworth Ford

"Feather" capsizing in a heavy puff at Essex

THE Boston Dinghy Club, made up of those who have been active in the game in and around Boston for the past year, was formally organized in February, with E. Arthur Shuman, Jr., as Commodore, Morgan H. Harris, Vice Commodore, William U. Swan, Secretary, L. H. H. Johnson, Jr., Treasurer, William L. Carlton, Chairman of the Race Committee, L. Francis Herreshoff, Chairman of the Measurement Committee, and John G. Alden, Delegate to the North American Dinghy Association.

The club will hold an intersectional regatta in the Charles River Basin on April 23rd, when entries from New York, Bristol, Providence and other localities are expected.

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A big fleet took part in the Washington's Birthday Regatta held at Hingham by the Boston Dinghy Club. Bill Dyer turned up from Providence with a new Class B creation, *Yellow Peril*, and proceeded to clean up six of the ten races held in light and moderate weather, scoring 52 points for the day. Morgan H. Harris, sailing a new Paine-Belknap boat, *Birdseye*, took second honors with 33 points, while Arthur Shuman was third in *Dirty Duck II* with 32 points. Fred Thurber's *Pop Eye* took the honors in Class A.

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Season's honors for fun, excitement, and close racing should go to the two-day regatta held at Essex, Connecticut, on March 4th and 5th. Due to the single-handed efforts of Walter Rowe, this most attractive and hospitable little town "turned to" and entertained a big crowd of Frostbiters with a real regatta. Some 25 dinks turned up, plus a swarm of people from Boston, Providence, Bristol and New York. The town band entertained the onlookers on Sunday, and the Ladies' Aid Society did a big business in hot dogs and coffee on the spacious wharf. Western Union ran a special wire to the Griswold House so that sports reporters might serve the waiting world with up-to-the-minute news.

Sailing in a good whole sail nor'wester on Saturday, George Ratsey took most of the honors in Class B with *Utility*, the sleek double-skinned Uffa Fox creation, while Allan Clarke, in *Feather*, and Arthur Knapp, in *Sideboard Annie*, were prominent in Class A. On Sunday it was blowing half a gale, and most of the boats stuck to their trailers. Corny Shields took the helm of Nick Potter's new *Doc Cook* (which races under a different name every week) and carried full sail to a number of clean-cut victories, his nearest competitors being Ted Clarke, in *Eskimo II*, and Lorna Whittelsey, in *Snow Bird*. Despite carrying away a mast in one race and capsizing in another, Allan Clarke took most of the Class A honors once more in *Feather*, his closest competitors being Knapp in *Sideboard Annie*, Bill Dyer in *Harbinger* and Fred Thurber in *Pop Eye*. With two dinks swamped, several more nearly so, an increasing gale, and ice forming on hulls and rigging, the committee called off hostilities after the fourth race.

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Here are some of the regattas now being organized:

April 23, Intersectional Regatta, Boston.
May 14, Mason's Island Sanctioned Regatta. Plant Trophy for Class B. Roosevelt Trophy for Class A.
July 16, Larchmont-American Y. C. Special Regatta.
August —, Ida Lewis Y. C., Newport.

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The new rules for Classes A and B are now in the hands of all members of the North American Dinghy Association, and hereafter, in all sanctioned regattas, will be strictly enforced. The two special committees worked hard and long on these rules, and have been markedly successful in clarifying the situation in general. The older and slower stock boats in Class A will continue to have keen, even racing, success depending primarily on tuning up and racing ability, whereas Class B enthusiasts can outbuild each other to their heart's content, although the majority of the "B" boats are pretty close together so far. New craft are expected soon from the boards of Francis Herreshoff, Paine-Belknap, John Alden, and others. There should be some pretty hot racing in Class B at Mason's Island on May 14th, where a record fleet is expected.

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Larchmont holds two records in dinghy racing — one for the greatest number of entries in a race, the other for the greatest number of races run off in a day. They had 32 starters in their September affair, and in February ran off no less than 14 races.

M. Rosenfeld

This trim looking craft, which has accommodations for seven, is the 46-footer turned out by the Wheeler Shipyard. With her 100 h.p. Winton Diesel, she has an unusually wide cruising radius and good speed

The Month in Yachting

The New Harmsworth Challenge

THE unexpected, last-minute challenge of Hubert Scott-Paine for the Harmsworth Trophy means that we shall once again, along with half a million or so others, betake ourselves to the Detroit River for the Gold Cup race on Friday, September first, then out to Lake St. Clair on Saturday, September 2nd, Labor Day, and possibly for many days thereafter, depending upon the weather. The starting time of the Harmsworth, many will be relieved to hear, has been changed from early dawn until late afternoon.

Scott-Paine's challenge is the most serious threat to American possession of the Harmsworth Trophy since Gar Wood brought it back here in 1920, or, rather, since the untimely death of Sir Henry Segrave who would probably have achieved very different results with *Miss England II* than those now recorded.

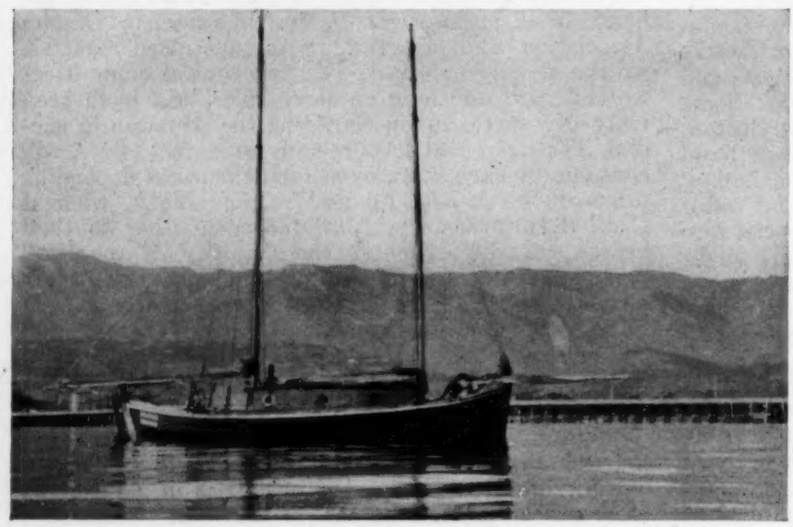
Hubert Scott-Paine is somewhat of a match for Gar Wood in several respects — much more of a match, in fact, than anybody (again excepting Segrave) who has challenged since Sir Mackay Edgar and his wonderful *Maple Leaf IV*. Scott-Paine is a boat builder with unorthodox but apparently sound ideas of hull design, and he is canny in competition, as several racing incidents have revealed. Not a word has been released concerning *Miss Britain III*, the new boat, not yet built, nor, so far as we can make out, even designed, with which Scott-Paine will continue the long British chase of the world's oldest motor boating trophy. Whether one old 1350 horsepower Napier Schneider Cup aviation engine can produce a boat speed greater than Gar Wood's four ancient but extremely honorable Packard marine engines, totaling 6400 horsepower, remains to be seen. But with Scott-Paine's mechanical knowledge and his habit of careful preparation for competition it is safe to say that the long series of British mechanical breakdowns is over.

Those who know that Scott-Paine, with *Miss Britain I*, won the *Detroit News* 5½ Litre International Trophy in 1930 but who did not see the race, are giving Mr. Scott-Paine a little more credit than is his just reward. It is true that he won the trophy and that his boat ran beautifully and sensationally for three heats with no mechanical trouble whatever. But the reason he won was because J. Lutcher Brown's *Phantom*, which was a much faster boat, with approximately the same power, sank after the first heat and missed the second heat entirely.

The third heat of that race looked like the greatest motor boat contest ever witnessed. *Phantom* would draw 50 or 75 yards ahead of *Miss Britain I* on the straightaways but would have to take the turns wide, in the normal manner of our racing boats. *Miss Britain I* would approach a turning buoy, whip around it, and be on her way while *Phantom* was still 'way out on the turn. Thus the race see-sawed back and forth, but those who watched it closely realized that Brown was only playing with his British rival and could have finished much farther ahead of him than the 50 yards which separated them at the finish.

Scott-Paine's use of fore and aft rudders, and of a thin sliver-like hull with an overhanging platform all around it, produced an uncanny performance, which did not, however, produce the speed of the more conventional *Phantom*. Therefore, what he will reveal in the design of *Miss Britain III* is being anticipated with great curiosity.

GEORGE W. SUTTON, JR.



"Progress," a 37-foot schooner, is Captain Drake's latest venture in boatbuilding. She recently completed a 28-day passage from San Diego to Honolulu

"Dronningen," the headquarters, at Oslo, of the Royal Norwegian Yacht Club, where a part of the jubilee festivities will be held

Royal Norwegian Yacht Club Plans Jubilee Regatta

OF OUTSTANDING importance among European yachting events in 1933 will be the series of races sailed at Hankø, Norway. This year marks the fiftieth anniversary of the Royal Norwegian Yacht Club, and the jubilee will be celebrated by festivities in Oslo, and by international races at Hankø.

The defence of two international trophies in the Six-Metre Class, the Gold Cup and the One Ton Cup, rests with the Royal Norwegian Yacht Club. The series of races for the Gold Cup is scheduled to begin on June 25th, and that for the One Ton Cup, on July 10th. Seven countries have already filed challenges for the One Ton Cup — England, U. S. A., Germany, Finland, Italy, Sweden and France, and others may be received before the date of expiration is reached. As for the Gold Cup, it is practically certain that the countries named will be represented in the contest for this famous trophy, which was won for Norway last year by Magnus Konow's *Abu*. Challenges will be received until April 30th.

Sandwiched in between the races for the two Six-Metre trophies, will be a series of "International Jubilee Regattas," beginning with a race from Oslo (where the jubilee dinner will be held on July 2nd) to Hankø on July 3rd, a distance of 47 nautical miles. A number of foreign entries for the racing in the International Twelve- and Eight-Metre Classes are already assured, which, together with the foreign "Sixes" assembled for the two special events in the Six-Metre Class, will make a fleet strongly international in character. At least thirty Norwegian entries are expected in the Six-Metre Class, among them a new "Six," *Norna II*, which is building for Crown Prince Olav. She is from designs by Anker.

Hankø is an ideal setting for a large regatta. The problem of accommodations has been satisfactorily solved by an arrangement to have the steamer *Stella Polaris* anchored at Hankø during the period of the regatta.

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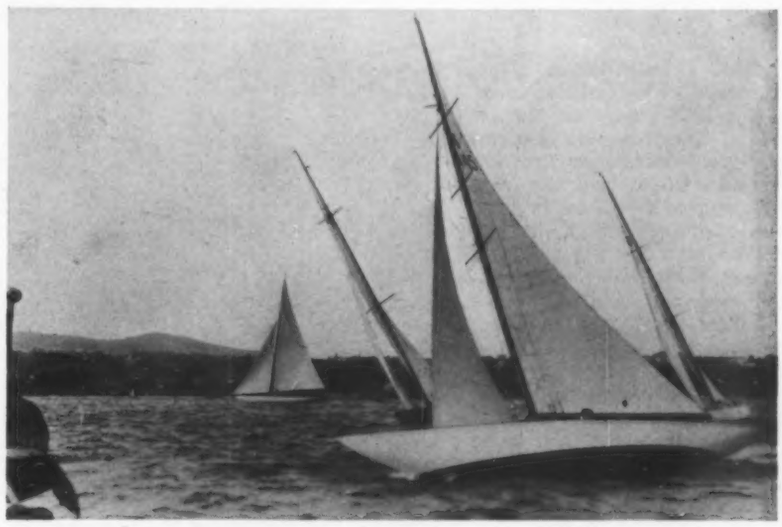
Captain Drake Reaches Honolulu

CAPTAIN THOMAS DRAKE, whose wanderings around the world in boats built by himself are familiar to yachtsmen, arrived in Honolulu, Hawaii, late in January on his latest venture in the 37-foot schooner *Progress*. The doughty little skipper, with his game leg, which he says is a help at sea as it is shorter than his good member and thus suited to a sloping deck, reports a hard voyage of 28 days from San Diego, California, which he left three days before Christmas. The wind blew hard the whole way, often reaching gale force, and when the trades were reached there was no let-up. The lone navigator says he was forced to put three reefs in the foresail and heave to nearly every night in order to get a little rest, but at that he never filled the cockpit of his boat or suffered any damage except the carrying away of some running gear. Which must have been something of an achievement, as his gear looked none too husky.

The little man is loud in his praises of *Progress*. In model, the new boat is very much like the *Pilgrim*, his last ship, which he lost off the Dutch coast some years ago. The hull looks good, being of the double-ender type with more overhang forward than aft and considerable flare to the topsides, being much wider on deck than on the water. In fact, the sections are saucer-shaped. On an overall length of 37 feet and a beam of 12½ feet, she draws but 4½ feet of water. The ballast is 5 tons of concrete poured into the bottom.

The cabin house looks none too strong, and it and the deck are covered with what looks like roofing paper. The cockpit is small, with high washboards to keep the water out, and under



The Six-Metre "Abu," owned by Magnus Konow, which took the Gold Cup and the One Ton Cup to Norway last year

R. J. Krantz

The 37-foot auxiliary cutter "Elmira," of the Seattle Y. C. fleet. Her owner, John M. Beaufort, designed her, and she was built in Seattle. A 2-cylinder Diesel gives her a speed under power of approximately seven miles

a hatch in the after end is the engine, a big, single-cylinder heavy duty motor of the type used by West Coast fishermen.

The bowsprit rakes *downward*, and is pivoted at the inboard end between the samson posts so that it can be topped up to a perpendicular position when not in use. On this the jib is set flying, on an outhaul, so that the skipper does not have to leave the deck to hand the jib. The rig is simple and easy to handle, but the masts look light and not too well stayed. The mainsail is jib-headed, being the same one used on the *Pilgrim* and saved when the boat was lost.

Captain Drake says he built the boat himself between April 1st and September, with the help of one man on the planking. He left Seattle in October and after a leisurely voyage down the coast he headed offshore for Honolulu. On her arrival there was a fine coat of grass on the bottom of his boat, which in part probably accounts for her slow voyage from the coast. *Progress* will remain in the islands until April, when her skipper expects to start back for Puget Sound. H. L. S.

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The Gibson Island Race

THE Gibson Island Race, premier long distance event of the 1933 season on the Atlantic Coast, is shaping up nicely, according to reports from the Race Committee, and from whisperings overheard in various localities where yachtsmen gather for a "gam" in the off season. While there is no possibility of approaching the record fleet of 42 starters which took part in the 1929 race, a large and representative entry list is in the making, and a fine contest assured.

The measurement rule to be used is the same as that used successfully in last year's Bermuda Race, and the same restrictions on sails will be in force. The same rig allowances and propeller allowances will also be used.

Four classes of boats will be provided for, as follows:

Class A, Cruising: Schooners, sloops, yawls and ketches, not over 72 feet and not under 53 feet over all length.

Class B, Cruising: Schooners, sloops, yawls and ketches, under 52 feet and not under 35 feet over all length.

Class C, Cruising: Schooners, yawls, sloops and ketches, under 35 feet and not under 30 feet over all length.

Class D, Racing: Schooners, sloops, yawls and ketches, not over 72 feet and not under 30 feet over all length. This class will be measured and rated under the Universal Rule of Measurement, and will not be eligible to compete for the Gibson Island Trophy, which is offered for the first boat to finish on corrected time, Classes A, B, and C racing together. First and second prizes will be offered in all four classes.

The start is scheduled for 10:00 A.M., June 24th, off Sarah's Ledge Buoy, New London. The course of 475 miles takes the boats around Chesapeake Lightvessel, at the entrance to Chesapeake Bay, to the finish off Baltimore Light.

Signed entry blanks for the following seven yachts had been received by the Gibson Island Race Committee up to March 15th: *Mistress*, schooner, George E. Roosevelt, New York; *Alsumar*, sloop, Philip LeBoutillier, New York; *Lady Susan*, schooner, George A. Whiting, Baltimore; *Aileen Booth*, schooner, Ellery F. Tuck, Castine, Me.; *Ulua*, yawl, L. S. Carter, New York; *Ataloa*, schooner, Corrin L. Strong, Washington, D. C.; *Torbatross*, yawl, J. A. Sayler, Baltimore. Fifteen additional owners have made personal application for entry blanks.

Race circulars, entry blanks, and full information may be secured from C. Ellis Ellicott, Jr., Chairman, Rules Committee, 1611 Bush Street, Baltimore, Md.

W. C. Sawyer

The Bird boat "Pipit," owned by John D. Frederick, Jr., which took second place in the races for cruising craft held during the Mid-Winter Regatta at Los Angeles

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New Bedford Active

PLENTY of activity for small boat sailors is promised in Southern New England waters this summer. Encouraged by the success of a number of events in the past few years, the New Bedford Yacht Club, with its attractive station at Padanaram, will go into commission early this year, and has scheduled a number of races which are sure to attract both local and visiting yachtsmen.

On May 30th will be held the annual auxiliary race for the Casey Cup, over a course from Padanaram, to and around Sow and Pigs Lightvessel, thence down Vineyard Sound, through Quick's Hole, to the finish off Padanaram.

June 10th is the date selected for the Whaler's Race for sailing craft. From the start at Padanaram the course leads to and around the Nomansland Gas buoy, thence to and around Block Island, and back to the finish off Padanaram.

New Bedford Race Week, which will feature events for all classes of sailing craft, will be held August 15th, 16th and 17th.

Information about these events may be secured from George H. Sistare, Chairman Regatta Committee, 474 Park Street, New Bedford, Mass.

Over forty sail boats from various Florida ports came to race on Lake Worth during the Palm Beach Regatta

Palm Beach Opens the Racing Season

FAST times, slow times, and good times all contributed to the enjoyment of the Washington's Birthday Regatta of the Palm Beach Yacht Club held on Lake Worth February 19th, 21st and 22nd. Both sail and power boat races were held, the latter division including outboards, runabouts, and fish boats. Scheduled races for limited and unlimited 151 hydroplanes did not materialize. *Skippy*, A. Fletcher Brown's defender of the Royal Poinciana and Bradley trophies, threw a propeller just before the race and the only challenger, Elmer Johnson, gracefully withdrew. Johnson took his fleet *Sparrow* over the course in an exhibition run.

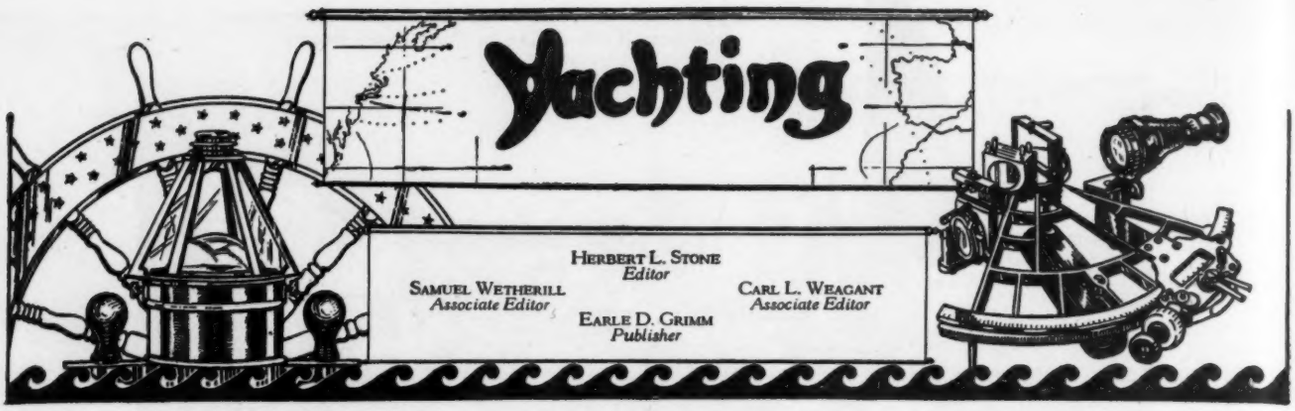
Some twelve small-boat races were held on Lake Worth under conditions typical of Western Long Island Sound in mid-August, that is to say, fitful zephyrs interspersed with flat calms, followed in the late afternoon by a light steady breeze. Over forty boats showed up from various Florida ports to add to the local fleet of Moths, Snipes, Crickets and what have you. Free-for-alls for boys and for girls were also held, and the final event, a grand free-for-all in which over 25 boats participated, was won by Leon Edge of Melbourne, Fla., in *Roma*. Other winners in the sailing events were the following:

Girls' Free-for-all, Helen Alford, West Palm Beach, Florida.
Boys Under 18, free-for-all, Joe Michael, Melbourne, Florida.
Moth Class for Siesta Trophy, Joel Van Sant, Daytona Beach.
Class under 100 feet sail area, Joel Van Sant.
Class of 101–150 feet sail area, Chester Tingler, Miami.
Class of over 150 feet sail area, Stevens Jennings, Ft. Pierce.
Snipe Class, R. Eccles, Miami.
Cricket Class, T. F. Anerman, Miami.
Boats of 14 feet and under, Henry Holmes, West Palm Beach.
Boats of 14 to 16 feet, Leon Edge, Melbourne.
Boats of over 16 feet, Chester Tingler, Miami.

On Tuesday the runabout and fish boat races were held, the former racing in three classes according to piston displacement. Paul Prigg of Miami, in a Prigg runabout, defeated Mrs. Jack Rutherford's *Ma Ja* in two heats, and again won in the finals Wednesday morning. In Class H (700 cu. in.) Jack Rutherford's Sea Lyon *Why Not* brought him

(*Continued on page 84*)

Above, the fishing sea skiffs closely bunched in one of the races held at Palm Beach. Top, the outboards off to a close start



EDITORIAL

The Coming Season

WITH another season close at hand yachtsmen may well look forward to it with the same spirit of renewed confidence which now pervades the country. As the calendar already indicates, there will be no curtailment of yachting events and with the impetus of a pick-up in business the season afloat should be better than in recent years.

There will be the race from New London to Gibson Island for ocean racing followers, outboard racing events in all sections of the country, auxiliary races nearly every week-end during the summer, and, to make the season complete, the British challenge for the Harmsworth Trophy by Hubert Scott-Paine, who is a real match for Gar Wood, bids fair to restore the status of this event to that of a racing classic.

Indications of an active season are already evident. It is reported that *Weetamoe*, *Vanitie*, and possibly *Yankee* or *Enterprise* will be in commission. If this proves correct, others will follow the lead. At a recent meeting of the Cruising Club a roll call of boats going into commission by the first of May was taken and the count revealed that an unexpected number would be afloat at that early date.

So in keeping with this new confidence, let us hope that yachtsmen will not hesitate to put their boats in commission, not only to enjoy what promises to be an active and interesting season on the water, but thus to add their bit to re-employment and buying, the essential factors of economic restoration.

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A Remarkable Achievement

MOST yachtsmen are more or less familiar with some of the remarkable single-handed voyages which have been made in the past, such as the ocean crossings of Howard Blackburn, a man who had lost his hands, and the 100-day Atlantic crossing of Alain Gerbault in the cutter *Firecrest*, a craft whose rigging and sails were scarcely fit for a crossing of Long Island Sound. These and other lone sailors overcame tremendous obstacles in their venturesome voyages, but it is doubtful if any of them will compare in this respect with the recent Pacific crossing of Fred Rebell, which was noted in our last issue. In a craft utterly unfit for the purpose, with terrible gear, and home-made navigating instruments, this remarkable man, with no particular previous experience on the water, succeeded in reaching Los Angeles from far-away Sydney, Australia. Rebell's own story of the trip, which will appear in our May issue, reveals the details of his almost unbelievable achievement, and strengthens our belief in the old saying, "Where there's a will there's a way."

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The New Harmsworth Challenge

ON FEBRUARY 28th, the day before the closing date for filing a Harmsworth challenge and when all hope of an international race this year had been given up, word was flashed from England entering a new boat, *Miss Britain III*, to be raced under the colors of the Royal Motor Yacht Club and by Hubert Scott-Paine, considered by many England's foremost speedboat driver. This was good news and should stimulate renewed interest in this event, which has so sadly failed to produce a good contest in recent years. With an experienced speedboat designer, builder and racer at the wheel, real competition seems assured.

Hubert Scott-Paine is financing the entire project himself and therefore his attempt to lift the Trophy should carry with it the impetus which characterizes an individual enterprise of this nature, and which it is generally conceded has been a vital factor in Gar Wood's success. It has been Scott-Paine's ambition for many years to challenge for the Harmsworth Trophy, but he has withheld his final effort until this time in order to insure detailed perfection of his plans. And, not until he has proved the reliability and speed of his new boat in forthcoming trials, will the decision to ship her to America be made.

The new challenger will be powered with one of the Schneider Cup seaplane engines, but the details of her hull design are not yet revealed, although it is expected that Scott-Paine will produce an "unorthodox" design which should make the race the more interesting.

The race is scheduled to be held at Detroit during the Labor Day week-end and in conjunction with the Gold Cup races so the stage will be set for an unusual double feature.

IN THE WORLD OF YACHTING

ADRIAN ISELIN II

BY HIS recent capture, for the second time, of the Bacardi Cup in his Star boat "Ace," during the Mid-Winter races at Havana, Adrian Iselin II has once more entered the name of Iselin, so well known to yachting fame, in the log of yacht racing victories.

Adrian Iselin II probably inherits his gift for yacht racing from his father, Charles Oliver Iselin, who was for years one of the most active participants in the defense of the America's Cup in the syndicates which raced "Vigilant," "Defender," "Reliance," and "Columbia." With this background, it is not surprising that Adrian Iselin II took to the water at an early age and was well schooled in the fine art of yacht racing. He has owned, and raced successfully, boats in many classes, including the Victory, Six- and Eight-Metre classes, but his main interest now seems to lie in Star boats. In 1924, with his first "Ace," he won the International Star Class Championship, taking the trophy back to Port Washington, the birthplace of the Stars and his home port. Since that time he has always been a dangerous contender in that series as well as in all other Star boat events.

Adrian Iselin II has not, however, confined his yachting entirely to the smaller classes. In 1930 he was a member of the afterguard of the America's Cup defense contender "Whirlwind," and his keen sense of yacht racing tactics has contributed to the strength of the afterguard in many other important racing events.

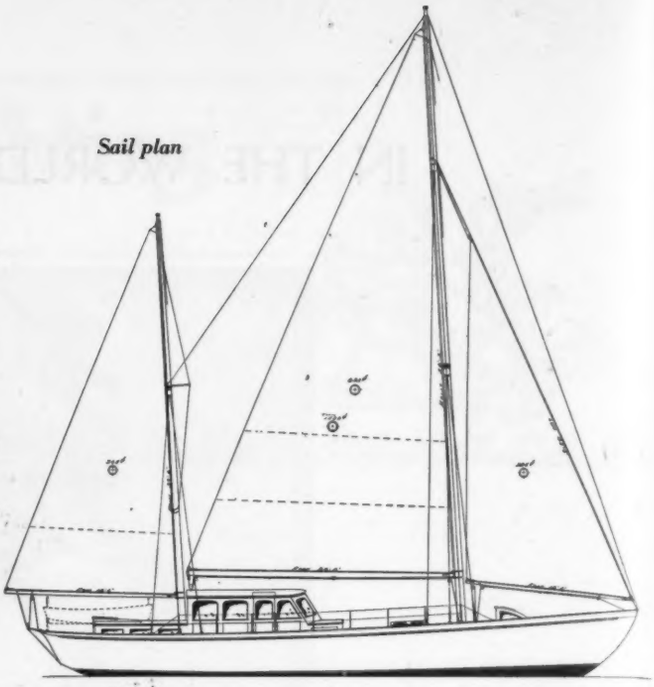
Long Island Sound has been the center of his yachting activity, and he is a member of the Port Washington, Larchmont, and New York Yacht Clubs.

A Fine Motor Sailer

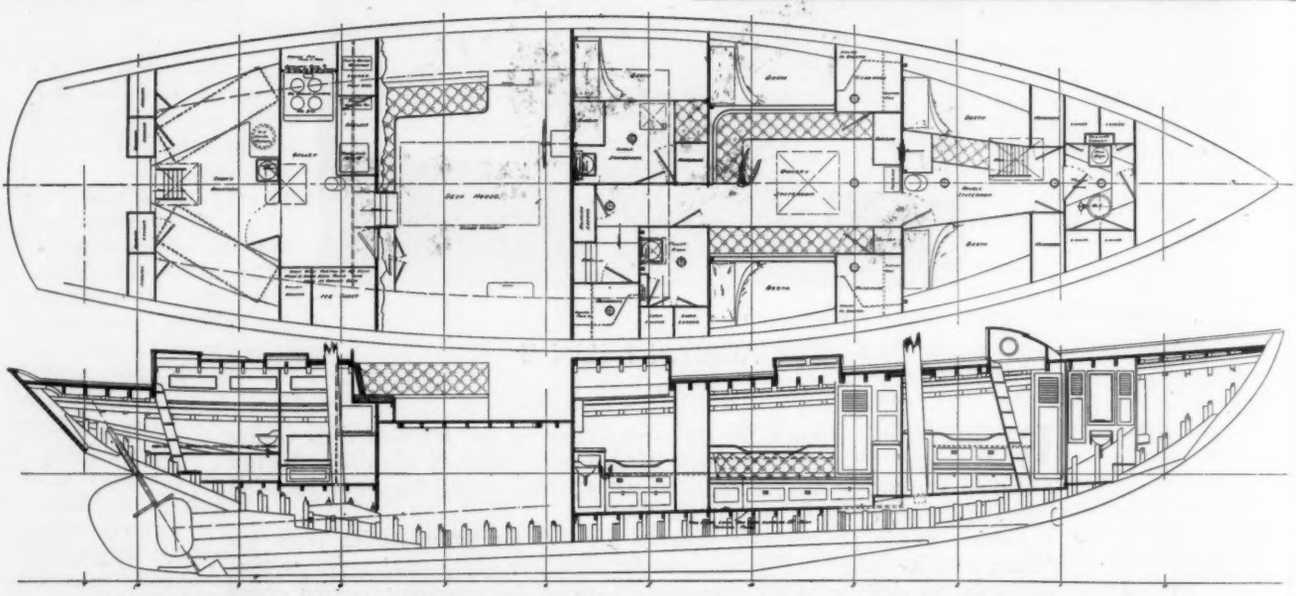
AN ATTRACTIVE motor sailer with somewhat unusual hull design and ample rig is now well under way at the yard of George Lawley & Son, Neponset, Mass. She was designed for an Eastern yachtsman by Sparkman & Stephens, and is of the following dimensions: l.o.a. 65′ 9″; l.w.l. 53′; beam, 17′ 2″; draft, 5′ 2″; sail area, 1522 sq. ft. The lead keel weighs 18,000 lbs., and there is a ton or so inside trimming ballast.

The purpose of the design was to produce a very roomy boat of light draft and good performance under power, with as good sailing qualities as possible consistent with light draft, ample beam and moderate rig. The beamy hull is of moderate displacement, and has short but flaring sections forward, and long run. The bilges are easy, as beam and ballast assure stability.

A 125 h.p. 6-cylinder Winton Diesel motor is expected to give a cruising speed of 8 to 9 knots, and maximum speed of 10 knots. Fair sailing speed should be attained, with the motor helping to windward in light going. The cabin plan shows clearly the fine accommodations. Large tankage gives a cruising radius under power of 1000 miles.



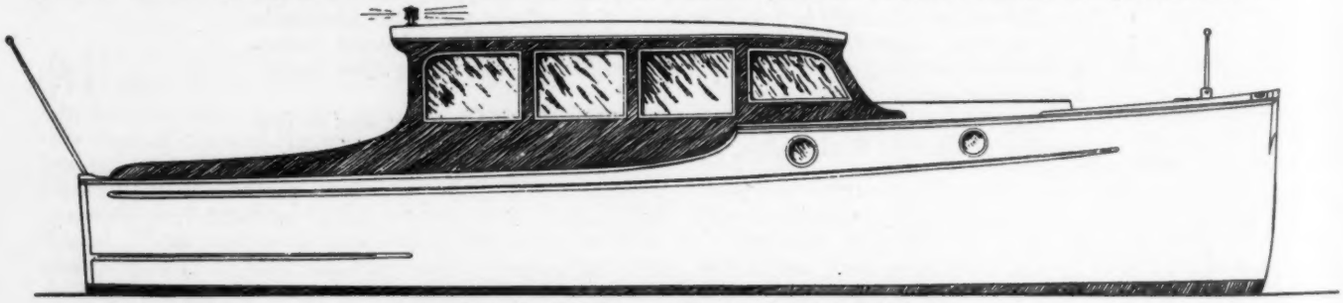
Sail plan



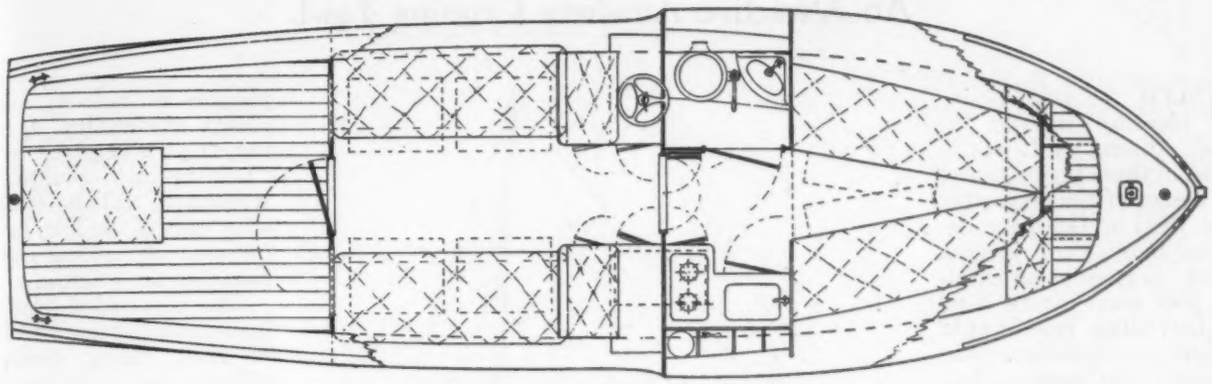
Inboard profile and cabin plan of the 66-foot motor sailer designed by Sparkman & Stephens for an eastern yachtsman

The Owens 32-Foot Double Cabin Cruiser

THE snappy 32-foot power cruiser pictured below and on the following page is the latest stock offering of the Owens Yacht Company, Annapolis, Maryland. She is called a "double cabin" craft, for in addition to a normal main cabin forward with four berths, she has an additional "deck cabin" with two more berths, the latter being removable in the day time. The boat is operated from this deck cabin, both the helmsman's seat, and its companion opposite, being elevated for clear vision. The large plate glass windows, which completely enclose this cabin, are readily opened. Good galley and toilet facilities are provided for.



Outboard profile of the Owens 32-foot double cabin stock cruiser



Cabin plan of the Owens 32-foot double cabin cruiser

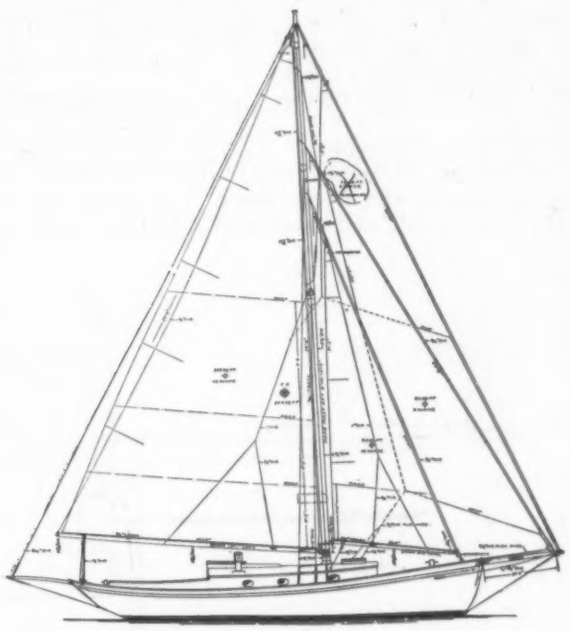
An outstanding feature of this boat is the stern V-drive, with 6-cylinder Gray motor operating through a reduction gear and assuring a 15-mile speed. The after cockpit has plenty of room for chairs. Construction and finish are high grade throughout, and the price is decidedly moderate. Equipment is most complete.

A Snappy Little Cutter From Ralph Winslow's Board

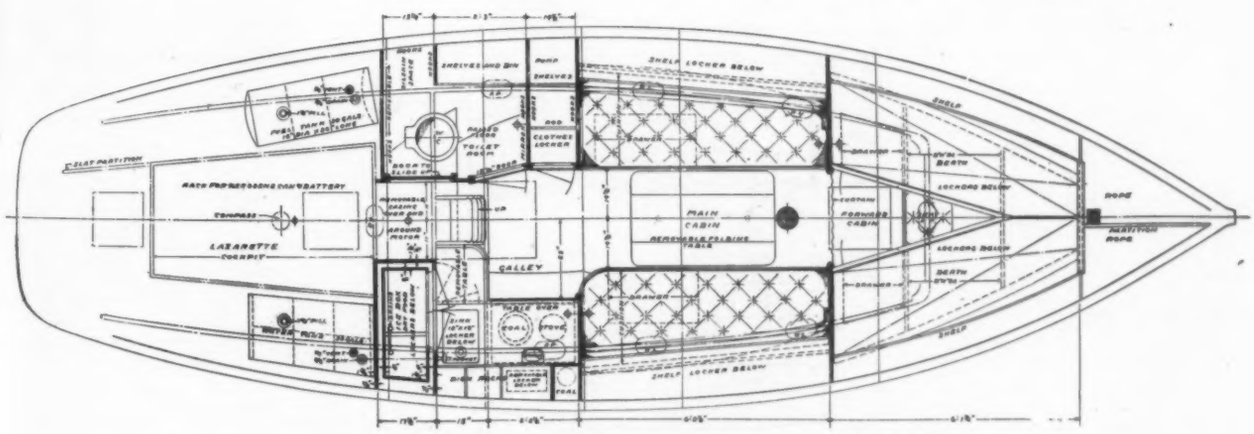
THE little auxiliary cruising cutter shown herewith was drawn up by Ralph E. Winslow for a member of the recently organized Bay State Cruising Squadron, who desired a small cruiser which would be able, roomy, seaworthy, a smart sailer, and easy to handle. Following are the principal dimensions: l.o.a. 30′; l.w.l. 24′; beam, 9′ 1″; draft, 5′ 4″; outside iron keel, 5900 lbs.; sail area, lowers, 524 sq. ft.

The jib-headed sail plan is neat and efficient, and needs little explanation. The hull has good displacement, good freeboard, short ends, and a lively sheer, with an underbody denoting good power and speed.

Unusually roomy accommodations have been worked into the attractive hull. Two berths forward may be curtained off for privacy. The main cabin is spacious and airy, with two transom berths, clothes locker, shelves, etc. There is a good galley aft on the starboard side, with 2-hole coal stove, ice box, sink, etc. Opposite is a fine toilet room, with shelves, lockers, etc. The motor, a Gray 4-20, surrounded by a removable casing, is under the bridge deck, and easily accessible when the companion steps are removed. Tanks for 30 gallons each of water and gasoline are installed under the after deck abreast of the cockpit.



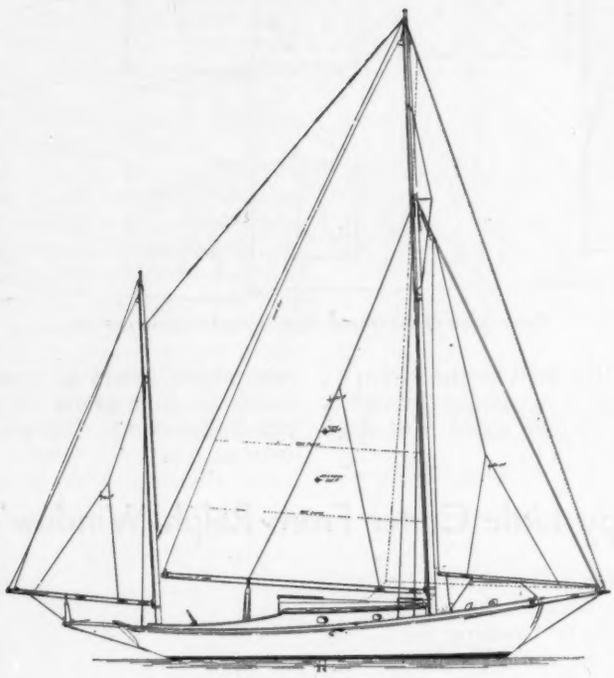
Sail plan of the Winslow-designed cutter



Cabin plan of the attractive 30-foot cutter designed by Ralph E. Winslow

An Attractive Auxiliary Cruising Yawl

WITH the steadily increasing interest in small cruising craft manifested in these trying times, the design of the attractive little yawl on this page deserves more than passing notice, as it gives an excellent idea what can be done in providing reasonable cruising accommodations in a small, able, smart-sailing hull which can be built at a very moderate price. The plans are from the board of John G. Alden, and are a development of a number of similar craft of the same type and size, several of which have proved their adaptability in fairly extensive cruising. The dimensions are as follows: l.o.a. 30′ 4″; l.w.l. 23′ 4″; beam, 9′ 8″; draft, 5′; sail area, 586 sq. ft.; head room, 5′ 9″.

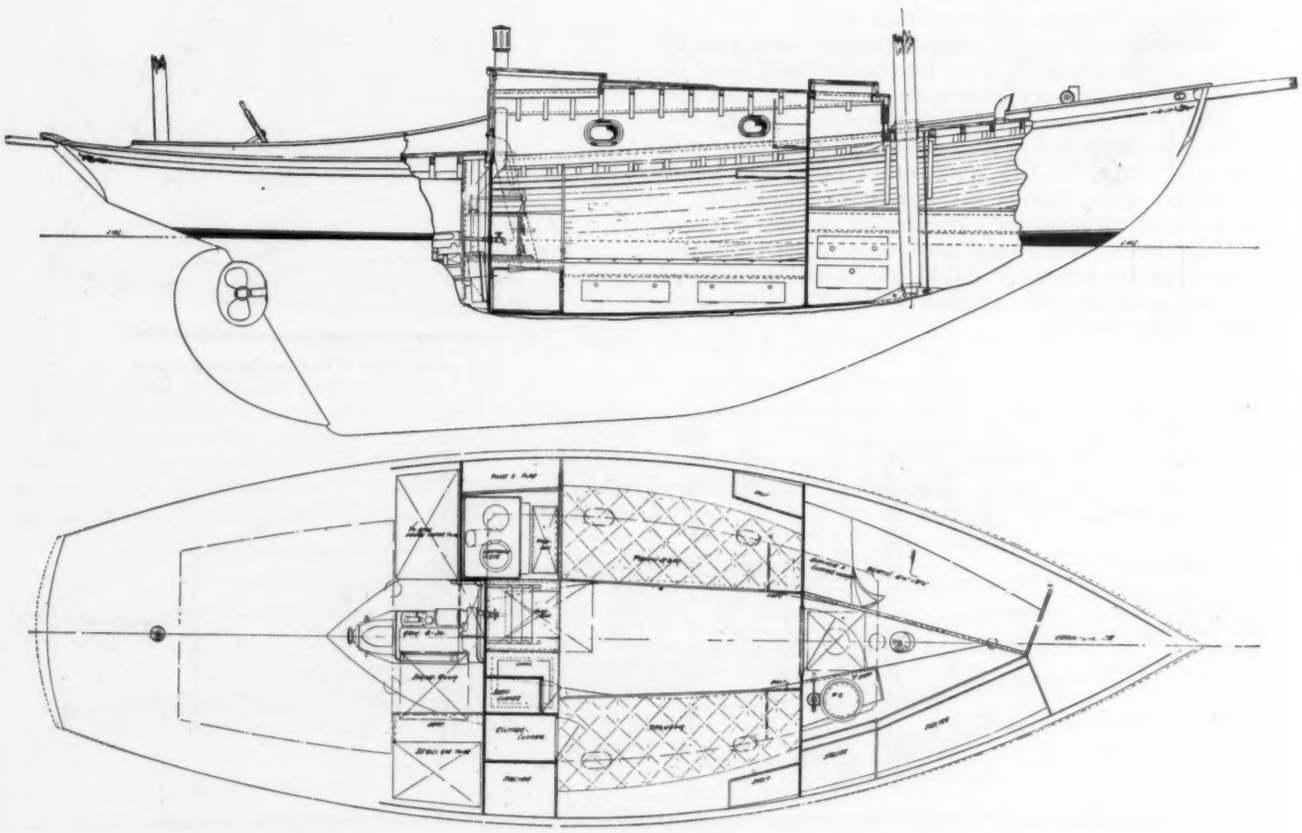


Sail plan

The profile is decidedly pleasing to the eye, and shows a hull with moderate ends, good freeboard, and lively sheer. The bilges are firm rather than hard, and combined with the beam and placing of ballast, assure plenty of stability. A good forefoot suggests good "holding on" qualities to windward, and the straight after part of the keel makes for ease of hauling out or beaching for a scrub.

The jib-headed yawl rig is ideal for this size and type of boat, being decidedly efficient and easily handled. Neither the main nor mizzen intrude themselves on cabin or cockpit. The interior layout shows a good main cabin, in the after part of which is the galley, with coal stove, ice box, dish and food lockers, etc. Forward is what is practically a small stateroom, with berth, toilet, and good storage space.

The power plant, placed aft in a separate compartment, is a 20 h.p. 4-cylinder Gray, which drives a Hyde feathering wheel and gives a speed around 7 miles an hour in calm water. Tanks for gasoline and water under the decks abreast the cockpit assure lengthy cruising.



Inboard profile and interior accommodation plan of the 30-foot cruising yawl designed by John G. Alden

A Gibson Island Race Contestant

ONE of the dark horses in the coming Gibson Island Race is the attractive cutter whose plans are shown on this page, and which is now nearing completion at Hodgdon Bros., East Boothbay, Maine. She was designed for W. Gilbert Dunham, of Larchmont, by Charles D. Mower, and is of the following dimensions: l.o.a. 43′ 9″; l.w.l. 35′ 6″; beam, 11′ 9″; draft, 6′ 9″; sail area, working sails, 992 sq. ft.

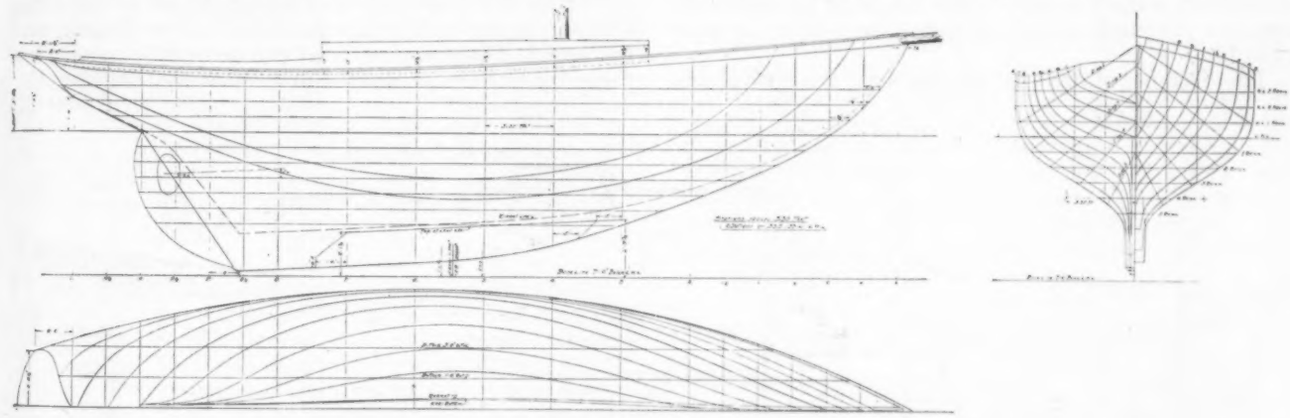
Sail plan

Designed for offshore cruising, the plans show a fine seagoing hull of good displacement, ample freeboard, and moderate ends. Bilges are moderately hard, and both entrance and exit are easy. With ample lateral plane and excellent indicated stability, she should show a fine performance to windward when it breezes up a bit.

The cutter rig is nicely proportioned, with main boom almost level with the taffrail. A permanent backstay runs to a boomkin. The mast runs through the trunk cabin, the latter being strongly braced. The large fore triangle allows a variety of large and efficient light sails, including jib topsails, Genoa jib, and large spinnaker of normal type.

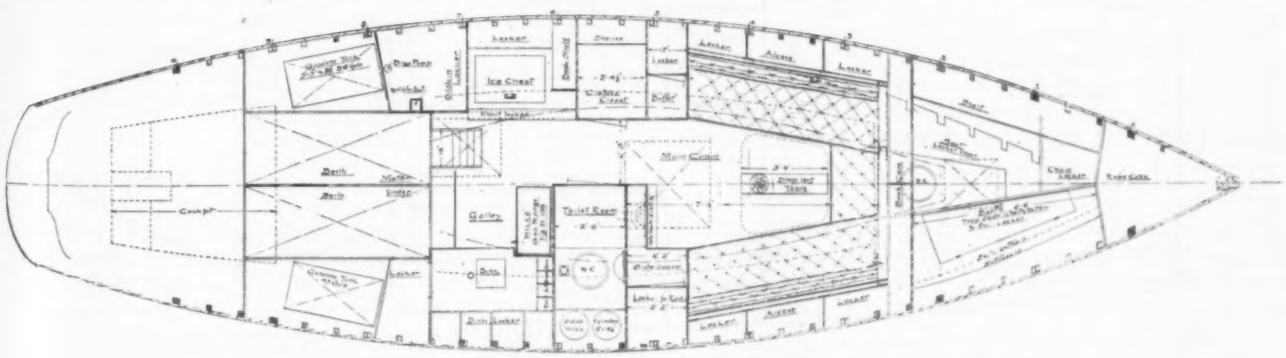
The finest construction is being used throughout, including double planking with outer skin of mahogany. Decks are of teak, and outside joiner work is mahogany. All fastenings and metal work are of Everdur bronze, and the keel is lead.

The cabin plan reflects the individual requirements of the owner. The main cabin is forward, where it will not be a thoroughfare for everyone below decks, and has two wide extension transoms which will be used as berths. The forecastle has a good berth, toilet, shelves and plenty of stowage space. Galley, ice box and toilet room are located amidships, while aft, instead of the usual quarter berths, are two berths under the bridge deck, which hinge upward to give access to the motor.

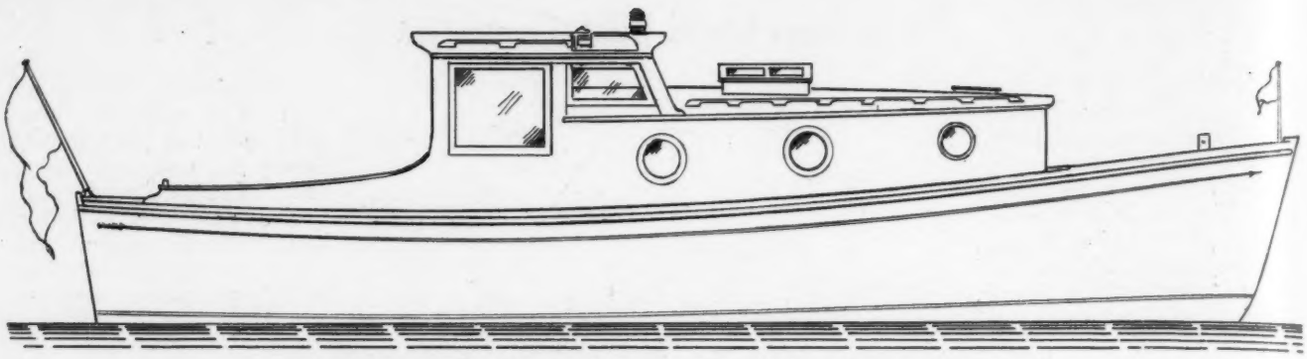


Lines and body plan of the 44-foot cutter designed by Charles D. Mower

The auxiliary motor is a 4-cylinder Falcon 45 with reduction gear, which drives a 3-bladed Hyde feathering wheel, and is expected to give a speed of 8 m.p.h.



Cabin plan of the 44-foot cutter designed by Mower for W. Gilbert Dunham, of Larchmont



Outboard profile of the 27-foot fishing cruiser designed by J. L. Foster

An Inexpensive Fishing Cruiser

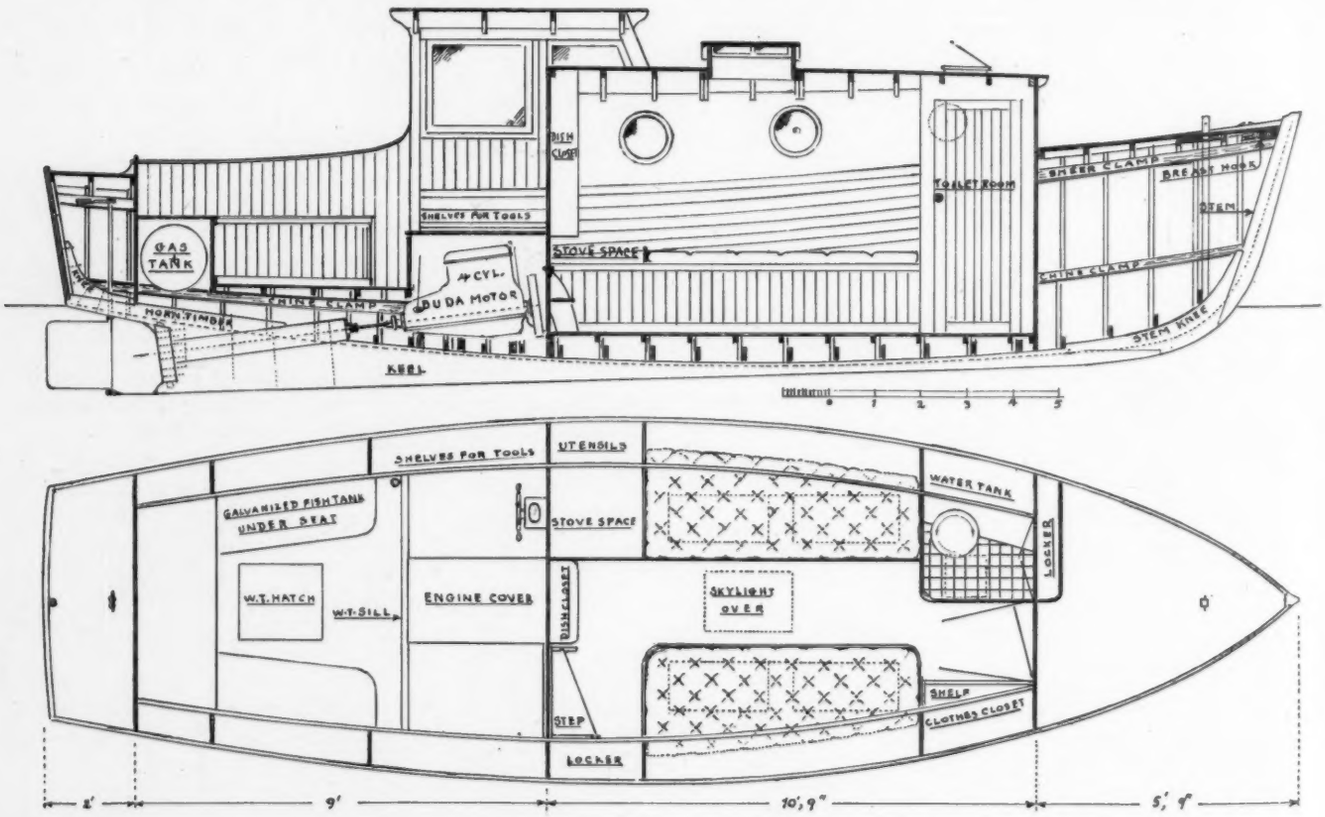
WE ARE privileged to reproduce on this page the plans of a small motor boat which should make a wide appeal. She is termed a "fishing cruiser" by her designer, J. L. Foster, of Vancouver, B. C., and was gotten up as a "build it yourself" boat for a Long Island yachtsman who wished to be able to navigate the shallow waters of Great South Bay, and fish on the open Atlantic besides. Following are the dimensions: l.o.a. 27′ 6″; beam, 8′; draft, 2′.

Intended for open sea work, the boat has a good sheer and freeboard, and wide side decks. The lines are decidedly fair, with clean entrance and clearance for good performance in a seaway. The knuckle of the chine disappears some distance before reaching the stem, the transom is rounded, and the appearance afloat is quite graceful.

The designer states that he has used the special system of V-bottom construction shown for a number of years, and believes it to be the quickest, simplest, and least expensive method possible, besides making an extremely strong and lasting hull. The chine seams of the planking of boats built by this method have never leaked in any stress of weather, even after many years of use.

The interior arrangement makes a cosy and comfortable little ship, with two transoms, toilet room, galley space, and plenty of locker and stowage space. Both cabin and steering shelter have full head room, and the cockpit is ample for fishing or lounging about.

A 4-cylinder Buda motor is shown, though any good motor up to 40 h.p. may be installed, larger power being useless, as the hull is designed for seaworthiness, and not speed. The complete boat can be built for a very low price, by either an amateur or professional builder.



Inboard profile and accommodation plan of the 27-foot fishing cruiser designed by J. L. Foster

Under the Lee of the Longboat

by Cap Stan

MORE than one auxiliary cruiser which I've had occasion to operate under power has given me the Willies when I had occasion to use the throttle control — the action was jerky, sticky, and uncertain. The throttle control on my own boat suddenly stuck tight one time — wide open — and nearly caused serious trouble. All these troubles boil down to just one thing — improper installation. Read that article by George Crouch in the last issue, entitled "Motor Controls," and you'll see just why there are so many poor installations, and how easy it really is to make proper installations once the basic principles are understood. This is fitting-out time — exactly the right time to check up on any balky engine controls and be assured that during the coming season you'll have smooth, certain action in this important department.

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The designing competition for ocean racers sponsored by the Cruising Club last month should go a long ways towards proving the worth of the proposed new measurement rule. The fastest boat wins the competition. If it's a good all-round boat, well and good, but if it has any freakish features, the rule isn't so hot. The winner of the recent competition in England, under the Royal Ocean Racing Club Rule, is of a type not at all popular on this side of the Atlantic, and I don't think would have a show in the present competition, for, as I understand things, narrow craft don't fare well under the Cruising Club rule. I've heard of half a dozen designs which are under way for the American competition, by qualified designers, so it shouldn't be long now until we get a definite idea whether or not the proposed American rule is going to do the trick.

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Bill Taylor points out a number of ways how you can save money fitting out your boat this year in his interesting article in the current issue, most of which are applicable to the chap who does his own work, or the bulk of it. But the man who has the yard fit out his own boat can, and will, save money this year, too. For the simple reason that many of the yards have reduced their charges for almost every variety of work which has to be done on a yacht, and passed along the saving to the yacht owner. The big item, of course, is labor, and labor has taken quite a cut in wages, just as workers in other lines have done. So, before deciding that you're too poor to put the good ship in commission this year, get an estimate from the yard on what it'll cost. Add to that the savings in reduced wages to paid hands, and maybe you can be afloat this summer after all.

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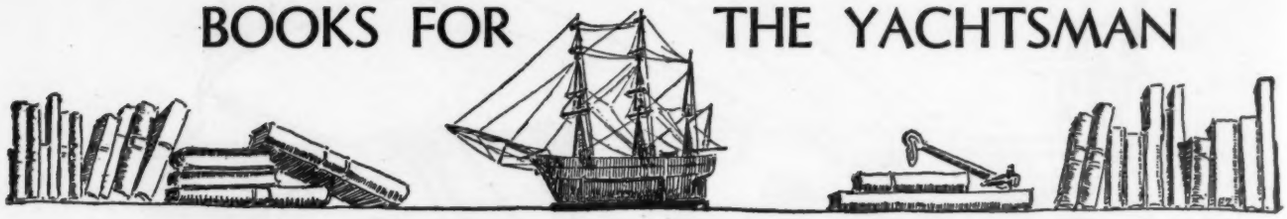
Last summer it was freely predicted that the so-called Frostbite dinghy craze wouldn't last through another winter, but would gradually peter out to zero, or thereabouts. But instead of dying out, this phase of sailing has increased in popularity by leaps and bounds all along the Atlantic seaboard, and is beginning to arouse interest in other localities as well. There seem to be many reasons for this. Our last two winters have been quite mild, and just as suited to sailing as to skating, skiing, tobogganing, and other winter sports. The cost of racing a small dink is very small indeed compared to racing any of the usual small one-design classes. But I believe that what makes the greatest appeal is the real fun which people get out of it, contestants and spectators alike. Take that two-day regatta at Essex a week or so ago. Some two dozen dinks showed up, from Boston, Bristol, Providence, New York and way stations. A flock of people braved a chilling wind to watch the races. The village band played, the local hotel was overflowing, and everyone had a swell time. There's no doubt about it — people are very definitely "dinghy-minded." Instead of dying out, all signs point to its continuing throughout the summer — a regatta at Newport is planned for August, and several others are in the wind. If you can't afford a bigger boat, get a dink and join the bunch which is getting so much fun and pleasure, winter and summer, for a very small outlay.

+ + +

Rotten mooring pennants are the cause of many casualties each year. You can preserve your pennant by painting it thoroughly with a 50-50 mixture of kerosene and copper paint. Or soak it in a preparation procured from one of the makers of copper paint, made for the purpose, and sold at a low price. It's good yacht insurance, and cheap — and you'll sleep better when those late summer blows begin to howl.

BOOKS FOR THE YACHTSMAN



Down Channel

By R. T. McMullen

(George Allen & Unwin, Ltd., London)

ANYONE who has talked with a British yachtsman more than once has found him quoting "Down Channel" as a lawyer cites Blackstone or Coke. For many years it has been the cruising man's Bible, in British waters, at least, and reference to it has been used to clinch many an argument. Quotations from it crop up in the writings of most of our cousins across the Western Ocean and many a Yankee sailorman has wondered what this classic was like. Out of print for many years, and not in every public library, it has been inaccessible to most of us. This reprint will, therefore, be welcomed by the fraternity of sailing yachtsmen and particularly by that hardy race of single-handers, the men who like to poke about the water alone. The original "Down Channel" was first published in 1869; the accounts of other cruises were printed in 1878 and 1880. The present reprint is from the edition of 1893, prepared in 1891 and seen through the press by Dixon Kemp after the author's death at the helm of his last little cruiser.

Mr. McMullen took to the water early, commencing his sailing career in a small boat, and never seemed to care for large craft. *Orion*, the biggest yacht that he owned, was originally a cutter 42 feet over all. Lengthened six feet by the stern and altered to a yawl, he discharged a semi-mutinous crew of two at Cherbourg and sailed her home alone. In this and his other smaller boats he made many a long cruise from his headquarters in the Thames Estuary, going to Land's End in the little three-ton *Leo*, and in other craft to Scotland and through the intricate channels of the Hebrides, through the roaring currents of Pentland Firth, around Great Britain and Ireland, to say nothing of voyages across the Channel to France. He seems to have been a careful navigator and a man averse to taking any unnecessary chances, yet ready to stand out to sea rather than search for a harbor entrance on a lee shore. He counseled young yachtsmen that to a well-found vessel the dangers of voyaging were not from the sea but from the land, and that it is better to get offshore at once in the face of approaching bad weather than to roll and pitch in a crowded anchorage with other craft dragging anchor.

Through all his voyages Mr. McMullen kept a record that was a combination of log and diary. From this he wrote the accounts of the earlier voyages, the brief notes being amplified into a most interesting narrative, the uninteresting runs being summarized in a few words. His story is detailed as to a number of seamanlike matters, and he enlarges on some of his experiences and passes on to his readers the benefits of his knowledge. On occasion, he could get along with a minimum of sleep and some of his port to port runs must have been strenuous. He was a prime sailor and never asked anyone on board to do anything he would not attempt himself. At times, when one of the crew would demur at some difficult or dangerous task, McMullen would hand over the tiller to the mate and climb aloft himself to clear the topsail sheet or do some similar job. On one memorable passage he pumped his lugger *Procyon* for hours on end.

Any sailorman should enjoy reading the book. Yachts and gear may have changed since the sixties and seventies, and the coast of Great Britain may be unfamiliar to readers on this side of the water, but it is still the same old ocean and seamanship is still an art that requires a long and studious apprenticeship.

\+ + +

Grain Race

By Alan Villiers

(Charles Scribner's Sons, N. Y., $3)

POWERFUL seagoing writers seem to be scarce! The punch of two-fisted mariners appears to melt away in contact with a pen. Nevertheless, the phenomenal combination of a first-class seaman and first-rate writer is worth waiting for — as Alan Villiers has demonstrated in the recently published "Grain Race."

By scrupulous attention to detail, and by presenting detailed facts simply, in diary fashion, Mr. Villiers' narration and description achieves a cumulative force which sweeps one's interest before it as if propelled by one of those gales in the "Roaring Forties."

Mr. Villiers constructs an autobiographical account of his voyage in his four-masted bark *Parma* from Port Broughton, Australia, around the Horn to Falmouth in 103 days. The story dynamically presents an unofficial but dramatic race of the last fleet of big windjammers. Every possible experience of human beings against the sea seems to have been crowded into this book.

The *Parma*, boasting 32,000 square feet of canvas, is a splendid specimen of the grand commercial fleets of sail that we all regretfully realize have almost disappeared from the sea. Against this background, made doubly romantic because of the "disappearing tradition" idea, Mr. Villiers has painted some especially fine portraits of youthful character and courage. So complete are these portraits that the subjects attain the stature of reality as we read. The splendidly clear photographs with which the book is generously illustrated increase the sense of actually experiencing the hardships of a Horn voyage.

Sooner or later we'll all read "Grain Race." It holds every promise of lasting as a vivid chronicle of a bright phase of human progress.

Of Interest to the Skipper

With convertible forward cockpit and stern drive, this Richardson 32-footer has a low and trim profile. A Gray engine and Vee drive deliver the power

Explosive Gases Detected by New Device

AN instrument of utmost value to boat owners which detects the presence of an explosive mixture below decks has been developed by the Safety Appliance Department of the Linde Air Products Company.

This device consists of a "head" located in the engine room or engine compartment, and is electrically operated. Two wires lead to a dial on the bridge or instrument panel and a zero reading on the dial indicates the absence of any gasoline vapor. Long before enough gasoline vapor to cause an explosion accumulates the dial needle will reveal its presence. The explosive range on the dial scale is indicated in red.

This warning device, with its convenient feature of remote reading, should greatly minimize the danger of gasoline explosions and eliminate much uncertainty.

The New 35-foot Marblehead Cruiser

A notable 1933 addition to the Staples, Johnson fleet is the new 35-foot enclosed bridge deck cruiser. Trim in appearance and seaworthy in performance, this boat incorporates many new features.

Forward is located a comfortable cockpit accommodating three people and providing ample space to work anchors. In the main cabin there are spacious lockers and dressers and comfortable bunks for a party of four. Abaft and adjoining the main cabin is a large galley with three-burner stove to starboard, and toilet room to port. The enclosed bridge deck is cleverly laid out to make a living room by day and a sleeping cabin at night, with a comfortable day lounge which can be converted into a double bed with box springs. A comfortable seat with controls handy is provided for the helmsman under the shelter of the deckhouse. Abaft the deckhouse is a large open cockpit for lounging, fishing, or swimming.

The standard 1933 Marblehead cruiser is equipped with a Marblehead-Buda engine which gives a speed of 16 to 17 m.p.h. Other power plants are optional.

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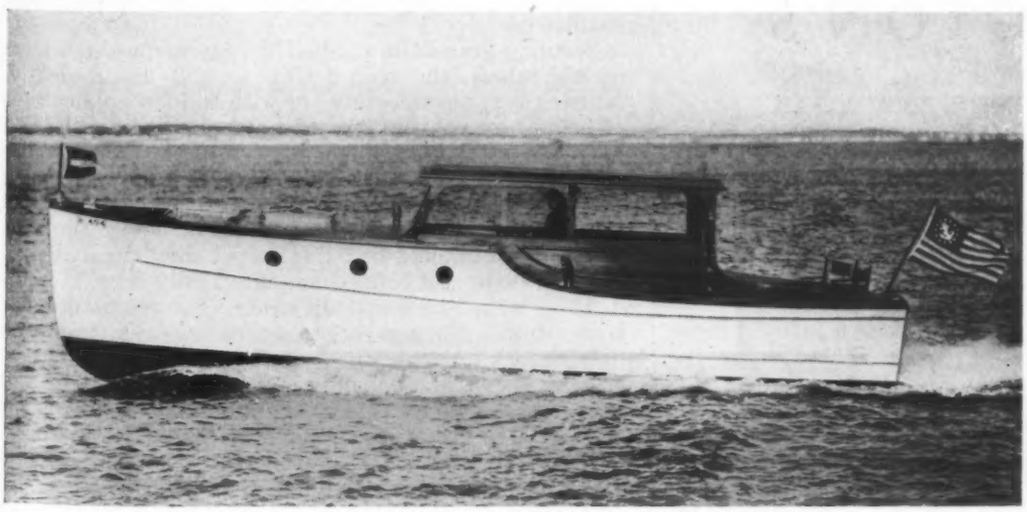
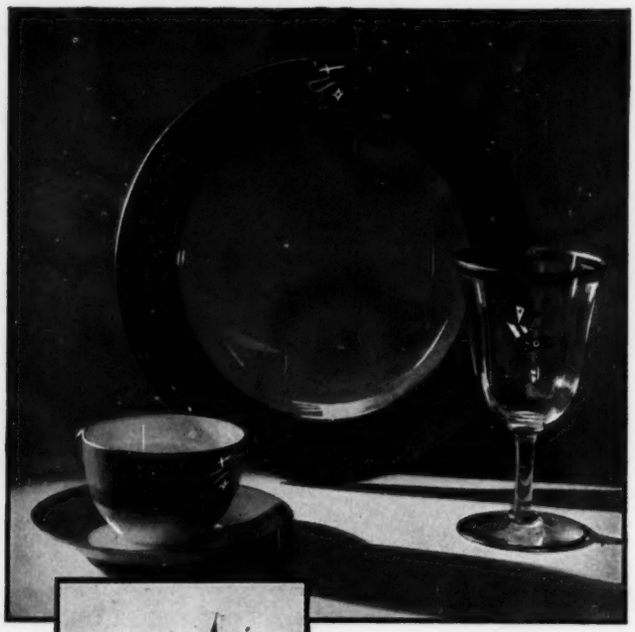
W. M. Eldridge, Inc., Opens Boston Office

In order that their service may be extended, the firm of William M. Eldridge, Inc., yacht brokers and naval architects, of 347 Madison Avenue, New York, has opened a branch office at Boston in the Hotel Lenox.

This branch will be in charge of Frank Wigglesworth, assisted by J. E. Wilkinson, both well known in New England yachting circles. The office is located on the Exeter Street side of the Hotel Lenox.



A new trim 35-foot stock cruiser — the 1933 Marblehead designed and built by Staples, Johnson & Co.



EQUIP YOUR SHIP AT OVINGTON'S

Whether you plan to slide a new ship down the ways or tune up the trusty old gondola — there are ship's things you'll be needing this Summer. For instance — ship's china, crystal and silver. Better do your chandlering at Ovington's! Ovington's has exactly what you want — at just about the prices you care to pay!

OVINGTON'S

Yacht China, Crystal, Silver . . . 3rd Floor

437 FIFTH AVENUE, NEW YORK

Pipe these new Lenox china patterns with crystal to match. Ivory bodied with gold edge with bands in color. Dinner plates from $36.50 a dozen. Other pieces in proportion.

"All Ships Is the Same"

(*Continued from page 32*)

made up his mind to take the tops'l from her; she was running with the stern often very low in the water. But he could not bring himself to take the canvas in. This was a brave wind: let her go! She would run down seven, eight degrees a day, and be quickly by the Horn. The whaleback wheelhouse protected the struggling helmsmen toiling with the two giant wheels, holding the bucking ship to her course. The spray and spume flew high, but the ship was staunch and strong. With evening the worst of the gale would be gone. She could run on.

The Mate and the Old Man — nothing autocratic or despotic about this Old Man — calmly deliberated upon the chances. Take the fores'l and the tops'l off her, the Old Man suggested, hoping that the Mate would say they could well be kept on; the Mate, too, thought the gale would blow itself to pieces with the evening. Often a gale seems worst with nightfall, and the roar of the wind in the rigging is louder when the daylight is done.

The sea was running ugly and dangerously high; yet it was a true sea. It was bitterly cold, but the helmsmen perspired at the wheel.

The evening came and the gale showed no intention whatever of blowing itself out or of doing anything else but increasing. How it roared and screamed in the rigging! All hands were out now, standing-by for a chance to get the tops'l in.

Before they had a chance, a mighty sea, roaring from astern, came over the running ship's poop, washed the steering compass over the side, leaving her with nothing to guide her, and within a matter of seconds she had swung her great length into the trough of the sea.

Broached-to!

It was touch and go then, mighty near the end. Helpless, out of control, the big ship lay trembling and rolling violently, dipping her yardarms into the black sea as it rose mountainous around her, falling over from side to side, doing herself serious damage. At any instant the rigging might go; she might open up; the sea might smash in the hatches. Any of these meant an almost instantaneous end for ship and all aboard.

Nothing could be done about it. The compass was gone; the wind now roared exultantly with such power that human lungs were useless against it; the Old Man himself leapt for the wheel with the red-haired Mate beside him. This was a time for the best helmsmen in the ship! All the crew were boys — fine boys and good sailors, but completely inexperienced under those conditions.

Seeming to feel the grasp of the experienced mariners at her wheel, the ship began to roll less violently. Nursing her, now meeting her with sudden applications of helm, now coaxing her with a spoke or two, the Old Man and his Mate brought her out of the trough again — coolly, without betraying any sign of recognition that the ship was in gravest danger. They expected that at any moment the masts might come tumbling down or the hatches be burst in; yet they stood at that exposed place and conned her steadfastly on. . . .

They won. She stood up again. The masts did not come down; the sea began to clear away from the hatches.

Even then, that was only half the battle. Fores'l and tops'l had blown away, leaving only a few rags of lower tops'ls straining at the yards; she could stand these. But still she had to go on without a compass. There was nothing to do but to bring her into the trough again, and heave-to.

Mate at the weather helm now, with three boys helping him cling to the heavy spokes, the Old Man conned her from the open place in front of the whaleback

Aboard the Ile de France

EACH evening, with a last touch of powder and lipstick . . . with a parting pat at handkerchief and tie . . . perfectly groomed ladies and gentlemen descend to take part in a ceremony. They are the votaries of a cult adorned with a tradition . . . their temple is a brilliant *salle à manger* . . . and their High Priest is a French Line chef.

During the voyage, they can sample masterpieces of famous Parisian restaurants . . . for, here have been concentrated centuries of experience in the art of dining.

Hors d'oeuvres are legion. Then, there may be a *Potage St. Germain*, just as you'd find it at Joseph's; or the incredible *Lobster Foyot*. . . . Eggs are never just "eggs," but rather *Oeufs à la crême* (shirred with cream), or *-Bercy* (hard boiled in wine and mushroom sauce), or perhaps *-Florentine* (poached on spinach with cheese and white wine), savory, tempting, piping-hot.

There are ducks that equal in flavor those numbered *canards* of Tour d'Argent . . . quail as delicious as Larue's *Cailles à la Souvaroff* . . . flaming *crêpes* prepared in a host of enchanting ways . . . or the delectable *Sabayon*, a dessert of rich custard and Marsala wine.

And then the *sommelier* is certain to suggest, with each course, delightful accompaniment of the best vintage years. . . . No one rushes through a French Line meal. It would border on sacrilege!

A superb cuisine . . . perfectly trained service (English-speaking, of course) . . . comfort, beauty and modernity . . . these are the quiet, daily attributes of French Line travel. Any travel agent will be glad to help plan your trip. . . . French Line, 19 State Street, New York.

French Line

ILE DE FRANCE, April 29, May 27, June 17 • PARIS, April 18, May 19, June 10 • CHAMPLAIN, April 22, May 13, June 3 • LAFAYETTE, May 6, June 8 • DE GRASSE, June 20 • ROCHAMBEAU, May 16

WITH BREAKERS UNDER YOUR BILGE

YOU'LL THANK YOUR LUCKY STARS FOR A UNIVERSAL

She's 28′ long. Her home port is Lyttelton, which is off to hell-and-gone in New Zealand. She's owned by Mr. S. Dromgoole, Jr. And she's powered with a Universal.

Now, let's get on with the story: one roaring day not long ago, Mr. Dromgoole was headed across the mouth of Lyttelton Harbour in the teeth of a sea that had gotten started up near Chile and had had little to stop it in five thousand miles of Southern Ocean.

Half way across, he saw a lifeboat with three people in it, rowing for dear life to clear the rocks on the leeward shore of the bay. He altered his course, wallowed almost into the roaring breakers, and managed to tow the lifeboat clear.

Now, perhaps there's nothing so unusual about the rescue. Plenty of motorboat men have done the same. Plenty more will do it this year, the sea being what it is. But, and here's the point: you don't want to try it without a motor that you can depend on.

That's why so many Universals figure in rescue jobs. They kick along, honestly and sturdily in foul weather as in fair. Universals are real Marine Motors, every inch of them. They're designed, not to run motor cars or buzz-saws, but to drive boats. You may never have to trust your life to your motor, but it's a comfort to have one that is worthy of the trust. How's for sending you some information on the Universal model that fits your needs? Will you write us?

Flexifour

4 cylinder, 25 h.p., 2500 r.p.m., 3″ bore x 3½″ stroke, 99 cu. in. piston displacement. Available both with and without electric starter. Direct and reduction drive.

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100% marine motor
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wheelhouse. He watched for a chance to bring her to — waiting, waiting. The great seas now roared like black mountains in a mad landslide, with their white crests flying off before them in the gale and falling bodily on the big ship's decks. The screaming of the hurricane was demoniac. . . .

Now a chance! Down helm! Down helm, for your lives!

Down! *Down!* it is, spokes spinning, spume flying!

She answers; she comes! Into the sea again, the whole long length of her — but not dangerous now; not so dangerous. The yards are canted and the canvas is gone, and she can lie hove-to there until the morning. . . .

It is a second victory; another wandering wind ship snatched from the jaws of unknown death.

"*All* ships is the same, always making trouble."

Aye, aye. All ships is the same, always making trouble; 'tis the men aboard them who pull them through.

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A Motor Cruiser on the Amazon

(*Continued from page 30*)

Airways took pity on us and put the thing to rights. Only one little detail remained wrong. Our mechanics had chipped the rim of the distributor head so that it no longer fitted perfectly. After several hours of running, expanded by the heat, it would slip a trifle and cause the contact points to wear. To be safe, we sent to Rio for an extra cap.

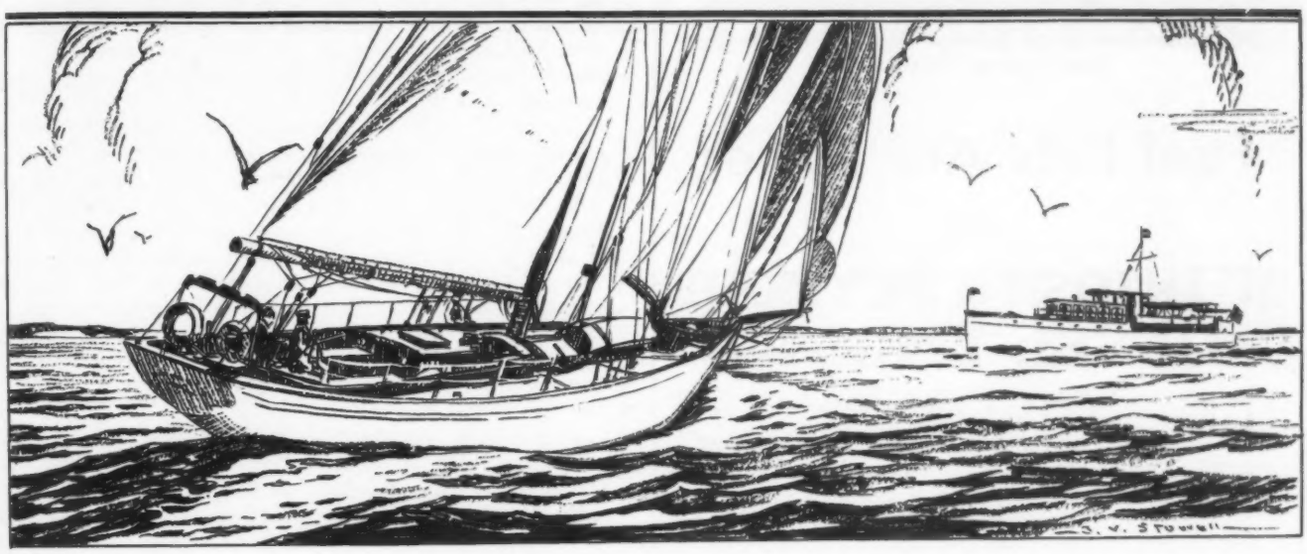
Our next excursion was to enter Marajo by way of the Rio Anabeiju. For this trip it seemed best to prospect over the ground in a four- or five-day cruise and then to return to Para for whatever supplies might be necessary. We left Para at noon — by some strange chance we could only cross the stormy Bahia when conditions were at their worst. Aboard were Curt Hell and Buppo Crawford, the ten-year-old son of Dr. Porter Crawford, Rockefeller man in charge of yellow fever control in the Amazon Valley. Curt wanted to forget about foreign exchange; Buppo wanted to see life.

Even close to Para the charts are painfully inaccurate in regard to all but the most frequented channels and passages. But our shallow draft made us pretty confident and we nosed our way through the dozens of islands and out into the Bahia without incident. A big, breaking sea was running and soon we were coasting down steep hillsides, feeling very much as if we were riding a surfboard.

By dint of slamming the wheel hard-a-starboard and then hard-a-port, something like a course was maintained, but always there was the feeling that we were failing to broach merely because we were lucky. The fun began when we ran across a large shallow area where the water was a boiling, white welter of seas running in from half the points of the compass. We reached and entered this maelstrom before we realized it; and once in, there was no other course open than to cross the turmoil.

For a short space we did well enough. I was in the cabin looking for a chart and suddenly felt a couple of wild yaws. Looking out, I saw Curt and Buppo — one looking to port and the other to starboard, but both with exactly similar expressions on their faces — a mixture of consternation, surprise and anxious waiting. Almost at once I saw the reason — a big, white-capped brute rolled up on the port quarter, towered high above the rail and, falling, gave the stern a vicious smash that flung *Rio Mar* against an even bigger sea coming up on the starboard quarter. There was a crash which seemed to herald the end of the world, a sheet of water obscured Curt and Buppo, and over we went on our beam ends.

International Products that Merit Your Attention



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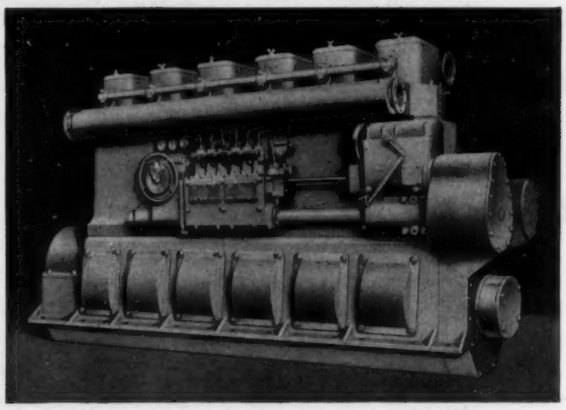

A Modern McIntosh & Seymour Diesel Engine showing Totally Enclosed Construction

Fuel Bills Are Lower

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DIESEL ENGINES as a class are economical because of the high thermal efficiency. Most marine engines convert only from 5 to 18 percent of the heat into useful work. As compared with this, Diesel Engines regularly convert to work 30 to 35 percent of the available heat in the fuel, therefore the amount of fuel purchased is less.

McIntosh & Seymour Diesel Engines because of their efficient fuel injection system are able to handle inexpensive fuel oil which makes the cost of fuel per horsepower produced very low.

This ability of McIntosh & Seymour Engines to use inexpensive fuel is due to the use of the most modern principals of design backed by over forty-five years experience as engine builders.

Your power problems will be given careful study by our engineers if you will but ask for their service.

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With surprising quickness the craft righted herself. Coming into the cockpit, I found Smith struggling with the wheel and succeeding in averting another tumble. The engine revolutions were quickly cut from 1200 per minute to 800, and the difference was little short of miraculous. With careful tending of the helm, the little sea skiff picked her way through two miles of broken white water until we reached greater depths where the seas lengthened somewhat and, at least, all came from the same direction. The revolutions per minute were increased to 1000.

Towards evening we stood into a river mouth and anchored for the night off Itaguary, a pretty Marajo town. Remarked Buppo, having gotten his feet on land: "Well, that was fine — but I was a little scared that one time when she almost turned over!" Which summed up very neatly the reaction of every man aboard. But Smith and I were both glad that it had happened. We now had a confidence in the boat that nothing could shake. Nerve-racking she could be, but seaworthy she certainly was.

Two days later we proceeded west along the Marajo coast to visit a supposed burial site and arrived at breakfast time at a beautiful little cove where the only man who knew of the place was rumored to live. Now, I have forgotten to mention that we had aboard two kingsnakes, a young ocelot, a chiboya snake and a ten-foot boa constrictor. These creatures were variously distributed about the cruiser. The ocelot was at large, the kingsnakes were in glass-covered boxes, the chiboya was in a box with a wire cover, and the boa was in a big basket inverted on top of another and similar basket, the two being lashed together.

Just before breakfast we tumbled into the clear fresh water and had a dip. Breakfast was proceeding apace when someone noticed that the boa constrictor was escaping. Two feet of head and neck protruded from a broken spot in the basket, and more was rapidly appearing. Smith, in his official capacity of snake charmer, rushed to the scene and began to stuff the boa back into the basket, but as fast as he could stick in one handful another handful would ooze out. More of us joined in the game. We were amazed at the strength in the long, glittering, animated spring. The snake stared at us coldly, and from time to time did a little hissing. Finally we succeeded in pouring him back completely and repairing the hole.

The night was spent anchored in front of an alcohol factory and we were all invited ashore for dinner. Brazilian hospitality is the kindest, most delightful thing in the world, and we had a very pleasant evening, translating articles in YACHTING to the sons of the Tocantins family, all of whom had craft of one kind or another and were great yachting enthusiasts.

Buppo, however, grew tired and said he wanted to turn in, so I took him down to the motor boat. His sleeping quarters consisted of a little hammock swung in the cockpit and directly over the now well-imprisoned boa constrictor. Just before he drifted off to sleep he called and asked whether there was any chance of the snake escaping. Reassured on this point, Buppo grunted and went to sleep.

Next day we returned to Para, our archaeological program organized. Gasoline and stores were put aboard, and in the morning we were ready to go. But lo and behold! the snake had broken the basket and jumped overboard — just 24 hours after I had assured Buppo that the boa was safely imprisoned! Lucky, lucky Buppo Crawford!

We made two more trips to Marajo and then the rainy season set in, making further excavating impossible. We returned to Para and got in trim for the voyage to the upper Amazon.

(To be Concluded)

RIDING ON RUBBER

a real thrill for a propeller shaft

..just common sense to you

With metal against metal and grit between, scoring and rapid wear are inevitable. Both shaft and bearing suffer.

With metal against rubber and grit between, the rubber depresses and prevents scoring. In a Goodrich Cutless Bearing, foreign matter is rolled into grooves, washed away.

AFTER all, a propeller shaft takes a pretty bad beating—whirling at 1,000 or maybe even 10,000 R. P. M. Trying to maintain that speed when sand and grit slide in between the surface of the shaft and the bearing is a real endurance test. No wonder propeller shafts seldom die of old age. • But it must be a real thrill for a shaft when a Goodrich Cutless Rubber Bearing is installed. There's no friction with the bearing then. The rubber *gives,* lets sand and foreign matter roll past the shaft, into special grooves, and back into the water. No argument as to whether the bearing or the shaft will take the punishment. The bearing steps aside—and then goes back to work. • And so—there's an extra 40 or 50 R. P. M. to make the owner feel better. There's no noisy vibration when you open the throttle. You can use—with comfort—every bit of horsepower the engine can produce. Season after season, you enjoy this same sort of freedom from bearing worry. • No other type of bearing lasts as long as a Goodrich Cutless. • Any boat yard will install one of these bearings for you. If you're buying a new boat, look under the stern. Make sure you get a Goodrich Cutless Bearing. • For prices, sizes, sources of supply, and detailed data, write for the free booklet, "How to Get More Speed Out of Your Boat." Lucian Q. Moffitt, Inc., exclusive distributors, 501 Peoples Bank Building, Akron, Ohio.

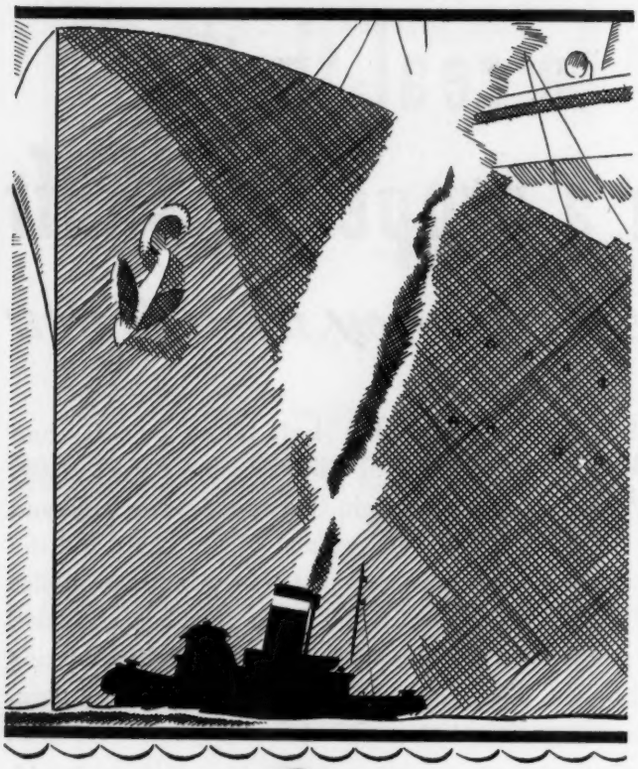
ALL *products problems* IN RUBBER

Goodrich *Cutless* Bearings

★

STURDY

AS A TUG



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A Winter Gale off Hatteras

(*Continued from page 45*)

the transom which kept out the worst of the sea, and made frequent trips to the cockpit, determined that the *Seal* was not to be handicapped in her battle by having her stern weighted down by water.

Five days of gale off Hatteras left us wet, tired, nerve-frayed, and with a profound respect for the Gulf Stream when she "horses up" against the nor'easters. Halfway through the gale I had jibed to the other tack, so at the end of five days we found ourselves seventy miles south of where we first hove to, well on our course. We concluded that we would rather have our fair winds in smaller doses, but the gods of the winds, being no respecter of persons, immediately forced us back on our old pre-gale diet of light, southerly winds, giving a beat almost all the way to Charleston. We entered the harbor on the morning of the eighteenth day after leaving Montauk Point.

This being our first extended experience offshore, we were uncertain as to whether we had been through a gale or just a nice blow. At Charleston we were assured by the Weather Bureau that we had been through a very severe gale. We also learned that a 50-foot schooner had been deserted somewhere near us and our respect for our gale increased as we heard that the steamer which rescued the crew of the ill-fated schooner almost foundered after the rescue. Diamond Shoals Lightship was reported to have dragged anchor for four miles. These reports leave us with a deep respect for our ship as well as the sea. We must, however, admit of hopes for fairer winds in less concentrated form for the remainder of our journey to the West Indies.

\+ + +

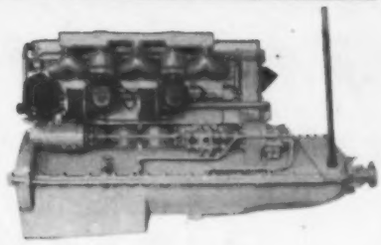
Pity the Poor Navigator!

(*Continued from page 40*)

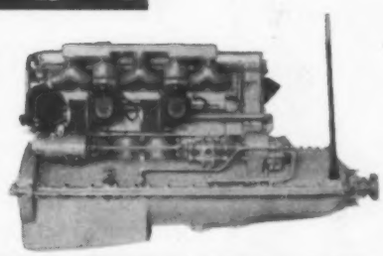
doomed to keep his mouth shut and look sure and cheerful. If he admits his quandary or if he commits himself to a course of action which in these climactic hours of the race proves incorrect, or if he even facetiously asserts (as I once did to a literal-minded skipper) that he is lost, then he is lost indeed.

Which is why I maintain that the dictionary definition of the art of navigation is inexact, and that the true art consists in the immediate recognition and correction of errors made. I would not have had the temerity to enlarge upon this definition if I had not made a good landfall on St. Davids Head in the last Bermuda Race. My star fix the last morning was not ten miles to the westward. I invented that in the foregoing example to make it easy for the reader. My stellar fix was actually ten miles to the eastward of my D.R., indicating an easterly set. And my sun sights for longitude five hours later were, respectively, twelve, twenty-four, and twenty-eight miles to the westward. That was pleasant, but when I learned that the man who had taken chronometer time for me was sure of his seconds but unsure of his minutes I took another string of three. These averaged ten miles to the westward — right back to where my D.R. had been before I obtained a three-star fix.

In my dilemma, which bordered on apoplexy, I thought of the currents north of Bermuda and dismissed them because no man has yet proved to my satisfaction that they can flow north, south, east, and west all in the same day — as they seem to do if one takes a poll among navigators at the yacht club bar. I thought of the leaping sea to leeward and the strong probability that I had measured a false horizon. I thought of the three-



a.c.f. Hall-Scott



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star fix and that made me think of the Three-Star Hennessy awaiting me at Bermuda. So I crossed out the sun sights and put my faith in the three stars. And *Brilliant* made so perfect a landfall that we did not have to alter a degree to round Kitchen Shoal buoy close aboard. But don't forget the perfect landfalls of those four boats in sight ahead of us.

\+ + +

Some Fitting Out Facts

(*Continued from page 42*)

around that could be made safe by a few hours of work and a couple of dollars worth of fittings.

Any number of people want to know if they can't use cheaper paints and varnishes than the usual marine variety. Sure they can. Whitewash looks quite nice on the topsides when you first put it on, and red barn paint is just about the same color as copper paint. But if you want to have the job last more than a few days, or to keep the worms from getting too fat on your bottom planking, you'd better pay and pay and pay. The best paints and varnishes man has yet devised are necessary to stand the abuse, the broiling sun, drying wind, soaking fresh and salt water, and the rubbing and bumping and trampling that boat surfaces get — and anything less than the best isn't worth putting on.

Paint brushes seem to bother the amateur fitters-out no little. There are two schools of thought in this matter; one favors keeping brushes in prime condition and making them last for years, and the other just takes the brush out of the can and lays it away somewhere to harden. Of course, everyone knows how to clean paint brushes. You soak them in gasoline or turpentine immediately after using, and then rub the paint out of them — preferably on the side of someone else's boat. Then you can either wash them out clean with soap powder and hot water or hang them in a can of linseed oil. Either method will keep them soft and usable. It has been estimated by a reliable observer that in the course of a fitting out season a man will spend $43.76 worth of time keeping three dollars worth of paint brushes in shape, but look at the satisfaction it gives you not to have to buy new ones.

Well, we could go on like this, giving advice for page after page, but it's safer to stop before we wear out the Editor's and the reader's patience (especially the Editor's — the reader can quit any time he likes). Besides, it's always better to leave a few things unsaid. So we leave the subject, for this Spring, with these few thoughts expressed above — especially the thought about its being better economy to fit out than not to fit out.

\+ + +

Palm Beach Opens the Racing Season

(*Continued from page 65*)

a second leg on the Jack Dempsey Trophy by defeating E. R. Jones' *Whoop-Te-Do* and Mrs. Rutherford's *Neddy*. In the runabout free-for-all Jack Rutherford, driving *Imp*, covered the 5-mile course at an average of 49.532 m.p.h.

Four classes of outboards went into action on Wednesday. Earl Gresh, driving his *Florida Kid*, handily captured both heats of the Class A event for top honors, with Jack Wood in *Michigan Kid*, second, and George Martin, in *Black Magic*, third.

Class B honors went to Frank Vincent of Tulsa, Oklahoma, who, at the wheel of *Miss DX*, topped his field in the opening heat by covering the five miles in 7.31 and came right back in the second heat to win over Walter Widegren and Bill Frey.

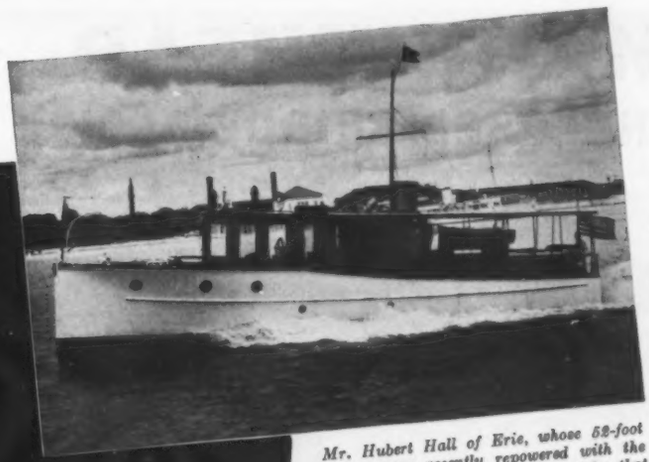
In Class C, Walter Everett, also of Tulsa, captured first honors, although he did not finish first in either heat, placing third in the first heat and second in the finals. He defeated Tommy Estlick of Waukegan, and Fred Nichols of St. Louis.

Frank Vincent, in *Miss DX*, again won first honors in Class F by placing third in the opening heat and first in the finals.

STEPPED UP

. . . FROM 9 TO 23 MILES PER HOUR WITH A KERMATH

V-12 Sea Raider



Mr. Hubert Hall of Erie, whose 52-foot cruiser was recently repowered with the twelve-cylinder Kermath motor, states that his boat speeds have been stepped up from 9 to 23½ miles per hour . . . "And I have never enjoyed a smoother, more perfectly performing motor."

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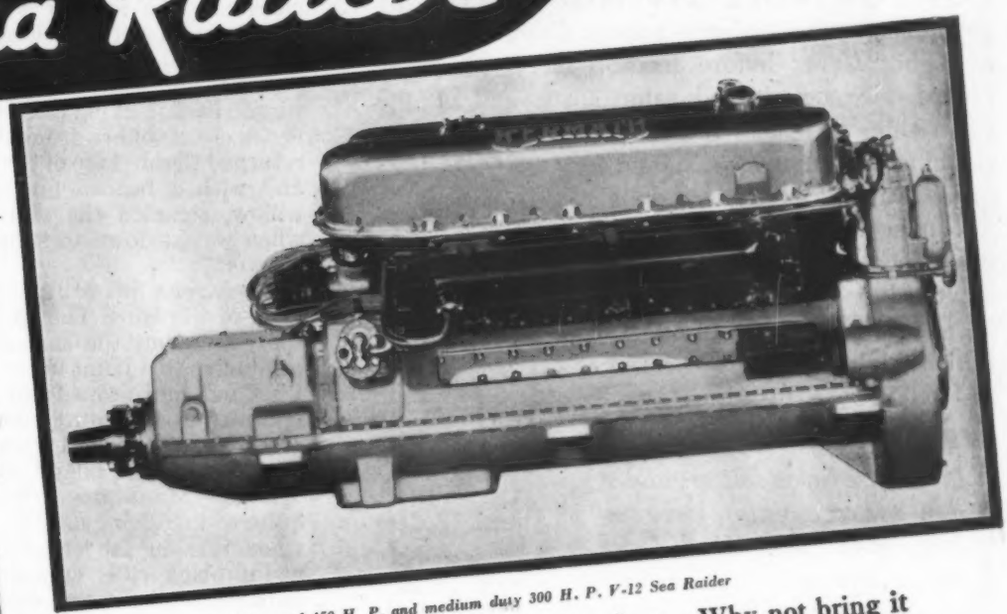
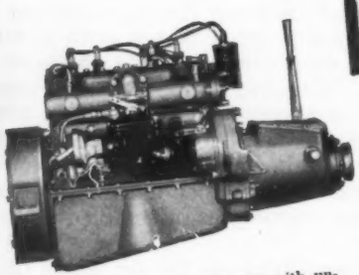


The new high speed 450 H. P. and medium duty 300 H. P. V-12 Sea Raider



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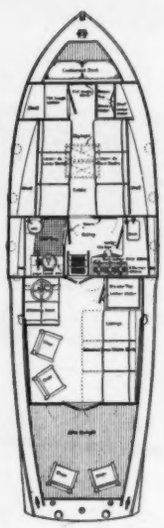

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A Northern Labrador Cruise

(*Continued from page 36*)

take the hook; so they had to be shot with a gun as they jumped the rapids.

August 3rd was fine and almost cloudless with a dying wind. On this one day the Fairchild was up for seven hours and virtually completed the survey. Brownell took Miller and Hubbard in the Waco, flew them in to Odell's abandoned camp, and left them there to make a long overland trek, surveying as they went, to the head of Kangalaksiorvik Fiord, where we arranged to meet them two days later. With their camping gear and theodolite on their backs, they made this lonely march through the swampy wilderness, climbing adjacent peaks and tying them into the triangulation.

On August 4th, while Miller and Hubbard were making their trek, and while the Fairchild plane was circling high over the fiord, taking vertical pictures for a detailed map, a party crossed the fiord in a dory to ascend one of the "Four Peaks," visible from our anchorage. The ascent led past a magnificent blue lake in a vast chasm at the foot of a precipice carved out of the mountain on a truly colossal scale. Unhappily, our good weather ended before we could scale the crags to the summit, and some of the party, balked of their view, turned back, leaving Odell and me to climb the peak in a dense cloud, blown from the north by an icy wind. We returned to the shore of the fiord shortly before midnight, and with a beacon fire made of twigs of the dwarf willow, signaled the motor boat. It was one o'clock when we sat down to supper in the warm cabin of the *Ramah*.

On August 5th Miller and Hubbard were due at the head of the fiord. The clouds had come right down on the water, but the surface of the cove was calm and conducive to a jaunt in the motor boat. So Crowley and I set out and groped our way along the south shore. Halfway up the fiord a strong east wind was blowing, and the clouds were higher and higher above the water as we progressed inland. Of all the moods in which the Torngat Mountains revealed themselves, none was quite so intriguing as that which appeared on this day, when rifts in the clouds showed fleeting glimpses of gaunt black cliffs or steep green slopes with a fitful patch of sunlight sweeping over them. At the head of the fiord we found Miller and Hubbard, their camp pitched in readiness for another night out. Two hours later we were back at Seaplane Cove, where the calm still prevailed. In easterly weather it is apparently usual to find the wind localized in the upper half of the fiord. Once more the entire party was assembled on the *Ramah*.

This time the bad weather held for six whole days. Torngat seemed to think we had pried into his secrets quite enough. During cloudy weather, and indeed during much of the clear weather as well, something in the atmosphere (perhaps Torngat himself) blocked radio communication. Brooks noted that the signals he received had a hollow sound, and often faded out, while he could not make his signals heard at all. Once in a while he was able to send a whole batch of messages direct to Hartford, Conn., but during this period of bad weather he was completely cut off. We wanted to send the Fairchild down to Hebron to meet the Hudson Bay boat *Fort Garry*, and fill up with the gasoline she was supposed to bring to us. The *Fort Garry* was due on August 5th, and on August 4th the Fairchild actually set out for Hebron, but at Cape White Handkerchief the rapid descent of the clouds sent her hurrying back to Seaplane Cove, to wait there through the long foggy spell. On the fifth we were dismayed to receive a radio message telling us that the *Fort Garry* was unable to

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bring either gasoline for the planes or oil for the *Ramah*. This meant that we must carry on with what we had till our return to Hopedale, unless some fuel found its way to Nain. By careful planning, Miller, Crowley and Bonnick worked out a flight schedule which would yield the photographs still needed and yet leave gasoline enough for the planes to return to Hopedale.

August 7th and 8th the weather continued bad, and it became evident that if we were to proceed farther north we must do so very soon, for it was a matter of importance for Odell to be at Corner Brook, Newfoundland, in time to catch a steamer leaving St. John's September 4th for England. We wished to visit Ekortiarsuk, a little-known fiord at Latitude 60°, and spend a few days there to enable Miller to extend his triangulation into the north, and Odell and Abbe to study that region. Hubbard's constructive genius was again invoked, and a sumptuous camp made ready for the air force, when the *Ramah* should sail north and leave them to finish their task on the return of good weather.

On August 9th, the clouds had lifted enough to encourage us to sail away to the north. Leaving the air force with the two planes and one of the dories, we weighed anchor, having lain in Seaplane Cove for nineteen days. But though the clouds were high enough to reveal the shore, a mean north wind sprang up and increased in force as we beat out between Whale Island and the mainland. By the time we rounded the next headland and came to the long, black beach known as the Iron Strand, it was blowing so hard and the sea was so rough that, aside from saving our fuel, we had no desire to drive into the head seas with the engine. But the *Ramah* carried whole sail splendidly and made steady progress to windward, though her speed was materially reduced by a layer of caplin eggs which covered her bottom. A cold, drizzling rain began and cut down the visibility to a mile. Following Grenfell's instructions to keep half a mile off the Iron Strand, we tacked offshore every time we got within this distance and stood out to sea till we lost sight of the shore, and then tacked in again. Each time we closed in on the Iron Strand, it seemed to stretch endlessly away into the mist in the north. Although the sailing was fine, apart from the cold drizzle, it was with relief that we saw the noble headland which marks the entrance to Ryan's Bay looming up boldly through the murk. The clouds lifted a bit as we drew nearer, the rain ceased, and the majestic entrance to the great fiord stood revealed, like the gateway to a giant castle.

We had hoped to reach Ekortiarsuk in a single day, but when at six o'clock our long thrash to windward had brought us to Ryan's Bay, we were more than ready to seek the anchorage which Grenfell had described. Just at the entrance the wind fell abruptly to a calm, and we started the engine. Once, outside in the seaway, we had got in irons when tacking, and the log line fouled the propeller so securely that we couldn't pull it clear. When we started the engine the line came clear, and to our amazement we found that the propeller had cut it in two and tied it together again.

Two miles up the fiord was a low, grassy slope, and there, to our surprise, we saw two tents — the first human habitations since Hebron. The shores of this fiord are mostly too bold to offer an anchorage, but here by the tents was a sandy beach, and 300 yards offshore a good anchorage in five fathoms. It was half past seven when we dropped anchor — an eight hours' sail from our base; and now I recalled how on a sunny day in the Waco I had examined the whole route, photographed the mountains and returned to our base, all in 45 minutes.

We had not been at anchor long before two Eskimos paddled out in their kayaks and called on us. They un-

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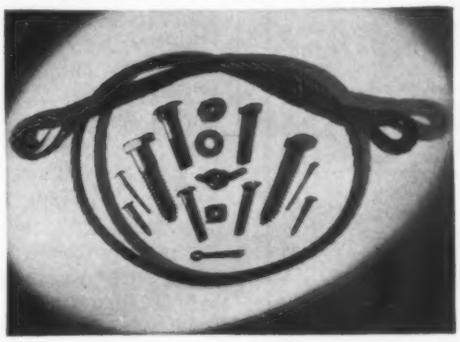

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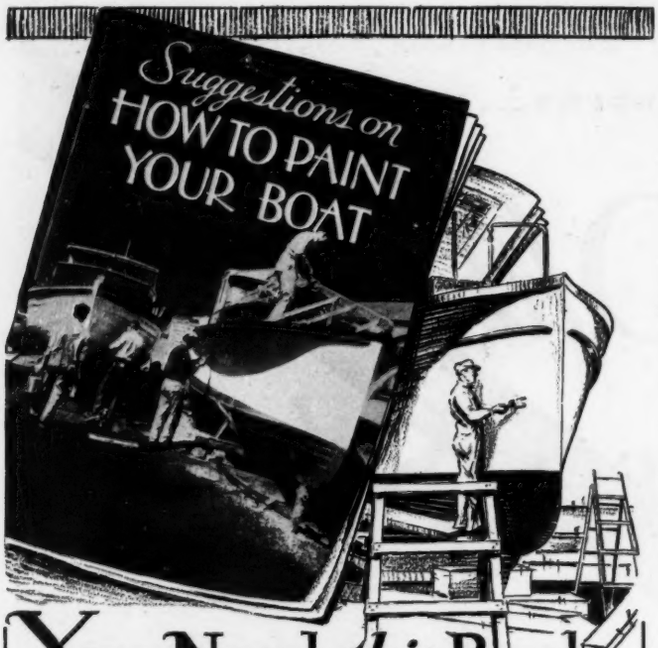

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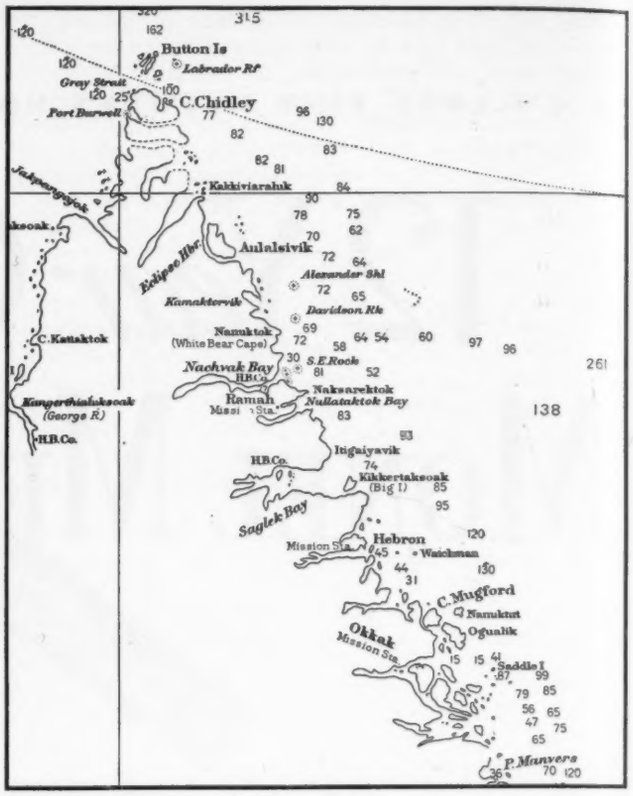

The Labrador coast, from Port Manvers north to the Button Islands

derstood no English, but their understanding of biscuits, cigarettes and chewing gum was perfect. They also understood our aerial photographs, and gave us the Eskimo names of some of the bays and headlands. They were amazingly willing to trade their necessary paddles for Ingersoll watches, of whose purpose they had no conception. Next day the weather was still frowning, and we remained at anchor, visiting the Eskimo camp, geologizing and exploring the fiord in the motor boat.

The morning of August 11th was as bright and clear as we could wish. Miller was up early to climb a peak and take some angles. At 10:30 he was back again, and we started north. This time, with a fine northwest breeze, we got underway without our engine for the first time since leaving Nova Scotia. Economy of fuel was now important, and we endeavored to travel by sail as much as possible. As we ran out of the fiord before the wind, the Fairchild appeared high overhead. They saw us, circled and swooped down over the fiord, and flying close to the water, shot past us barely a hundred yards away. This was their farewell, for when we returned to Seaplane Cove they had finished their work and flown away to the south; we saw them no more.

Outside the fiord it was gloriously clear and we could see the bold outline of Cape White Handkerchief till we were 50 miles or more away from it, and almost as far away in the north could be seen the promontory of Cape Chidley. A few miles north of Ryan's Bay, off Aulazevik Island, we came to a region where the sea was studded with reefs, mostly standing well out of water, but a few only awash and revealed by breakers. These outlying reefs, too numerous to count, extend at least as far north as Ekortiarsuk; our northernmost point, and I believe to Cape Chidley, about 25 miles farther. Early in the afternoon we passed Eclipse Harbor, surveyed in 1860 by a party of astronomers. The mountains here, though not so high as those south of Ryan's Bay, present more fantastic profiles.

(*Continued on page 98*)

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But on a LUX protected boat there is no chance for fire to turn pleasure into tragedy. A quick pull on the LUX control smothers the most threatening oil or gasoline blaze in three seconds.

Over 3000 yachtsmen have installed LUX upon their craft and banished all thought of fire. Whether your boat is a runaboat, cruiser, auxiliary or Diesel yacht, there is a system available for it. The free booklet "Cruising Without Fears" will give you complete information.

Walter Kidde & Company, Inc.
140 Cedar Street
New York

LUX

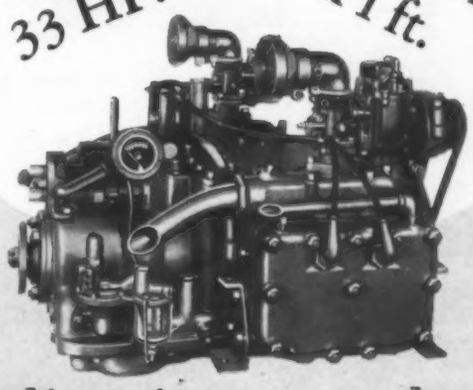
LUX FIRE PROTECTION

MOST POWER

IN LEAST SPACE

Up to 33 HP.

2 ft. x 2 ft. x 1 ft.



believe it or not, that's

MIDSHIPMAN II

Gifford-Wood's Modern Marine Engine. 4-cycle, 4-cylinder, 205-225 lbs. complete with electric starter and reverse gear. A sturdy, high grade engine you can trust with your life. 3 models—Low Speed, High Speed, Racing.

Also, the G-W Stern Drive

for engines up to 75 hp.

Get the new catalog—see for yourself.

GIFFORD-WOOD CO.

HUDSON, N. Y.
New York: 420 Lexington Avenue
Chicago: 565 W. Washington Street

1892

Barbasol

HENRY HAS THE LITTLE WOMAN GUESSING

NOW, HENRY, DON'T START GROWLING LIKE A LION WITHOUT A CAGE. YOU'VE GOT TO SHAVE BEFORE THE JONESES COME OVER AND THAT'S THAT!
O.K. LITTLE GIRL, I'LL DO 'ER.
I'D BETTER SEE WHAT HE'S UP TO. THERE'S SOMETHING FISHY ABOUT THIS. HE NEVER WANTED TO SHAVE AT NIGHT BEFORE.
H'MM. HE HASN'T EVEN GOT A LATHER YET. BETTER LET HIM ALONE THOUGH--- SEEMS HAPPY.
YOU LOOK SWELL! WHAT'S THE SECRET?
BARBASOL! BARBASOL! NO BRUSH, NO LATHER, NO RUB-IN. DUM DE DUM DE DUM DUM DUM

SHAVE WITHOUT LATHER! And do it with Barbasol, the coolest, smoothest shaving cream on the market. Because it's a cream, not a soap, Barbasol holds the whiskers firmly upright, gives the razor proper resistance so it glides along without a pull or a scrape. Leaves the natural oil in so the skin stays soft and pliable. Protects the face from sun- and windburn. Try it today. And use it *right:* **1.** Wash your face and leave it wet. **2.** Smooth on Barbasol (no need to rub it in). **3.** Wet your razor and SHAVE. That's all there is to it for the cleanest, coolest, quickest shave you've ever had. Generous tubes at all druggists', 35¢ and 65¢, or large jar, 75¢.

Barbasol recommends TEFRA TOOTHPASTE

In every 30¢ tube there is a free Tefra toothbrush refill, to fit a lifetime Tefra refillable toothbrush handle. For full information, tune in Barbasol radio programs listed.

THE BARBASOL COMPANY
Indianapolis, Indiana

Singin' Sam, the Barbasol Man, in songs you can't forget. Every Monday evening, at 8:00, Eastern Standard Time, over an extensive Columbia (WABC) Broadcasting hook-up.

Be sure to tune in.

Consult radio page of your local newspaper for stations

Of Interest to the Skipper

Belden Point Yacht Yard Opens

By purchasing outright the entire plant of B. F. Wood, Inc., the new Belden Point Yacht Yard has acquired one of the finest yard locations on City Island. Every facility for building, servicing, repairing, overhauling and storing motor boats and yachts is available, including three modern deep draft railways, a fine dock, deep water, a large, well lighted and equipped shop, ample machinery to handle the finest building work, and facilities for both covered and outside storage.

\+ + +

Moffitt Exclusive Distributor for Goodrich Rubber Bearings

To insure more concentrated and specialized sales and engineering service to dealers and users, the B. F. Goodrich Rubber Co. appointed Lucian Q. Moffitt, Inc., Peoples Bank Building, Akron, Ohio, exclusive distributors of Goodrich Cutless Rubber Bearings in the United States and Canada.

Mr. Moffitt, who has been manager of the Cutless Bearing Department of this firm for a number of years, is at the head of Lucian Q. Moffitt, Inc., and with him are associated the same personnel which has handled engineering and sales service in this office.

It is requested that all orders, inquiries and other correspondence relating to Cutless Bearings of any type be addressed to Lucian Q. Moffitt, Inc. They will extend the same prices and terms as have been received formerly. The product will, of course, continue to bear the Goodrich name and guarantee as heretofore and will enjoy the full benefit of the Goodrich resources in engineering development and research, as well as manufacture.

\+ + +

Wells Joins Nelson, Naval Architect

F. Jay Wells, naval architect, has recently become associated with Chris. B. Nelson, naval architect and yacht broker, with offices at 110 East 42nd Street, New York City. Mr. Wells will handle the sail and auxiliary end of this office. His knowledge of cruising boats and wide cruising experience should provide an expert service for clients of this organization.

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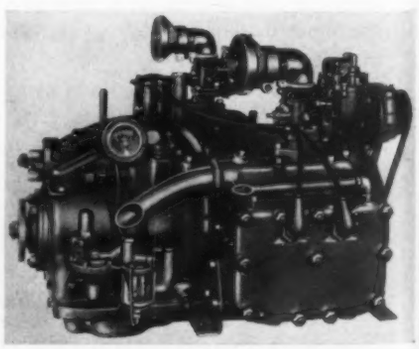


Midshipman II, the racing model of the compact horizontal engine made by the Gifford-Wood Co.

"NEW JERSEY" No. 339

Yacht Sea Green
Anti-Fouling Composition

A Powerful Anti-Fouling Paint with a Glossy Green Color Much Favored by Yachtsmen

SPECIFICATIONS:

COLOR — Light Sea Green.
FINISH — Gloss, very smooth.
SCRAPING — Not necessary. Designed to wear down evenly in use.
PREPARATION — To repaint bottom use hand scrub brush to remove slime, and apply paint as it comes from the can.
RESULTS — A perfect racing bottom, well protected from fouling and attack by worms.

"NEW JERSEY"
SHIP AND DECK PAINT

REDDISH BUFF AUSTRALIAN GREEN PINE

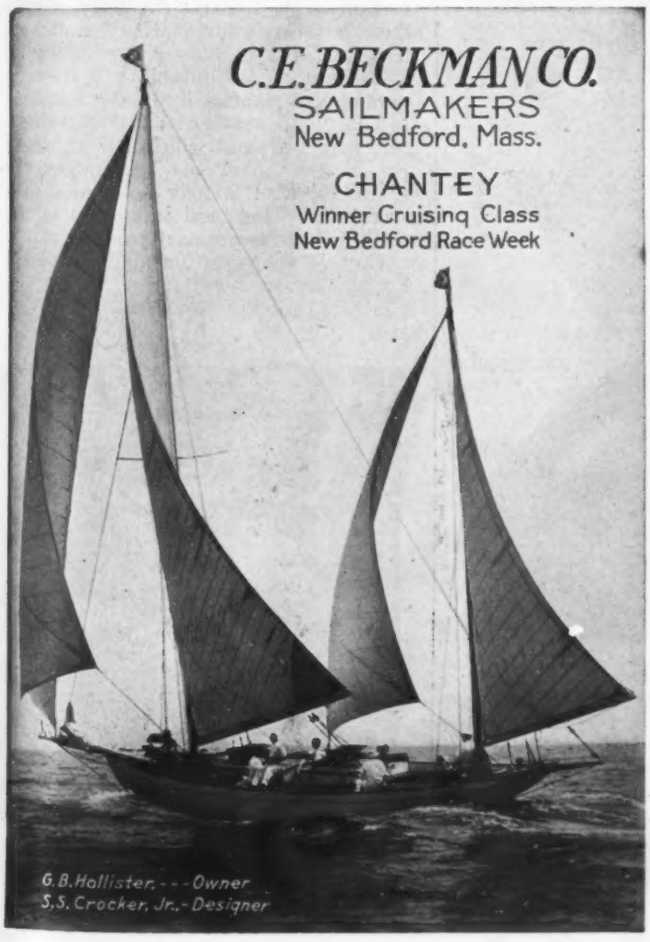
These new deck colors are becoming more popular each year.

Color cards for any kind of paint you may require furnished on request

New Jersey Paint Works

HARRY LOUDERBOUGH, INC.
Wayne and Fremont Streets, Jersey City, New Jersey

Write to Dept. 341 for free copy of
"DAVY JONES' LOCKER" booklet on painting



Choose a BUDA Marine Engine

Be Assured of *Full* Value and Satisfying Performance

The lowest priced engine may prove the most expensive in the long run. Marine engines must give *unfailing* service for years — not just one season. Buda marine engines are engineered and developed exclusively for marine use — your guarantee of full value. The Buda "Hivelo" series — 48 to 121 h.p. — offers a complete line for your selection. Furnished with or without reduction gear. Three-inch crankshaft. Replaceable valve seats. Full pressure lubrication to all main bearings, camshaft bearings, piston pins and reverse gear. Double ignition on KM and LM series.

Send today for Buda Bulletin No. 764

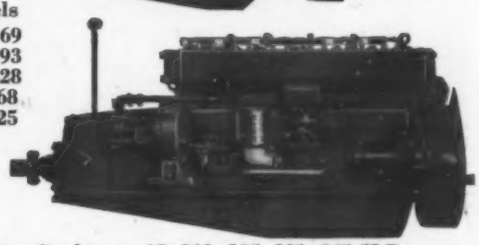
Model HM-173
4 cylinders
48 H.P.

Model HM-205
4 cylinders
57 H.P.

Model HM-260
6 cylinders
70 H.P.

Model HM-298
6 cylinders
81 H.P.

Models
KM-369
KM-393
KM-428
LM-468
LM-525



6 cylinders — 97, 101, 105, 111, 121 H.P.

Atlantic Coast Distributors:

Bowler Holmes & Hecker Co., Inc., 259 Greenwich St., New York City, N. Y.
Rapp-Huckins Company, Inc., 138-148 Beverly St., Boston, Mass.
Johnson & Towers, Inc., 126 Arch Street, Philadelphia, Pa.
H. E. Caulfield, St. Petersburg, Fla.
Gibbs Gas Engine Co., 26 S. Main St., Jacksonville, Fla.
Forest E. Johnson, 2932 Center St., Coconut Grove, Fla.
Thompson Fish Co., Key West, Fla.
Willard B. Tull, 512-514 E. Pratt St., Baltimore, Md.
Curtis Marine Co., Inc., 554 Front St., Norfolk, Va.
MacDonald Boat Yard, Daytona, Florida.
Daniels Bros., Fort Myers, Fla.
G. T. Backus & Son, Fort Pierce, Fla.
Gas Engine & Electric Co., 280-282 Meeting St., Charleston, S. C.
Stewart S. Sills, Sodus Point, N. Y.
Eau Gallie Boat Basin, Eau Gallie, Fla.

THE BUDA COMPANY

General Office and Factory:

HARVEY { Chicago / Suburb } ILLINOIS

Branch Office:

30 CHURCH ST. . . . . NEW YORK

Distributors in all principal cities

Fitting Out Time

WHILE fitting out your craft for another season's pleasure, give her good eyes. A Bausch & Lomb Marine Glass is the delight of mariners, Coast Guard officials, yachtsmen. One-piece body, dust-proof, moisture-proof. Prism construction gives true stereoscopic vision. Large objective lenses yield exceptional illumination, particularly welcome in haze and dirty weather. Superior optical system provides astonishing clarity and detail. At dealers. Informative catalog on request.

BAUSCH & LOMB OPTICAL CO., 722 ST. PAUL STREET, ROCHESTER, N. Y.

This 7 x 50 Marine Glass magnifies 7 times; has 50 mm. (2-inch) objective lenses. Complete with leather case and two sets of straps, $105.00. Others $50.00 to $121.00.

BAUSCH & LOMB
BINOCULARS

Kilborn-Sauer Marine Hardware

The Kilborn-Sauer Co., of Fairfield, Connecticut, offer to boat-owners an attractive line of 1933 marine hardware. Of special interest are their mooring buoys, with light reflectors attached in such a way as to be easily spotted with a searchlight when picking up the mooring at night. These reflectors are similar to those used on highway warning signs.

The Kilborn-Sauer sport light, a new and improved searchlight with controls mounted inside the stanchion, is made of cast bronze machined. The lamp throws a powerful half-mile beam and is ruggedly built to withstand abuse and salt water corrosion. In addition to this lamp, Kilborn and Sauer have a complete line of marine lamps and other marine hardware. At the plant complete electroplating equipment is available for fine chromium, nickel and copper plating.

A complete catalog of Kilborn-Sauer products may be obtained by writing to the above address.

\+ + +

A Fire-Retarding Paint

Burnot fire-retarding paint, manufactured by the Lundy Corporation, of New York, is a new and unusually valuable paint now made available for marine use.

Thorough tests have proved conclusively that surfaces coated with this composition will not ignite when subjected to sparks, flame or any other intense heat source. The paint is fire-retarding because when subjected to heat certain of its mineral constituents melt down to form an air-isolating film under a heat-insulating surface.

Because of its durability and wood permeating qualities, it resists the attacks of decay and weather as well, and therefore makes a paint which will withstand the severe conditions encountered in marine service. It may be secured in a variety of colors and is applied in the same manner as ordinary paint.

Complete information may be secured by writing to the Lundy Corporation, Chrysler Building, New York.

Hugo Biersach and Jack Maypole inspecting a new product of the Outboard Motors Corp. at the Show

The NEW
Belden Point Yacht Yard Inc.
CITY ISLAND, N. Y.

★ By purchasing outright the entire plant of B. F. Wood, Inc. we have acquired the finest yacht yard location on City Island. Every facility for building, servicing, repairing, overhauling and storing motor boats and yachts.

★ Three modern deep draft railways. Fine dock, deep clean water. Large, well lighted and equipped shop. Ample machinery to handle the finest building work. Experienced men under capable supervision. Facilities for both covered and outside storage.

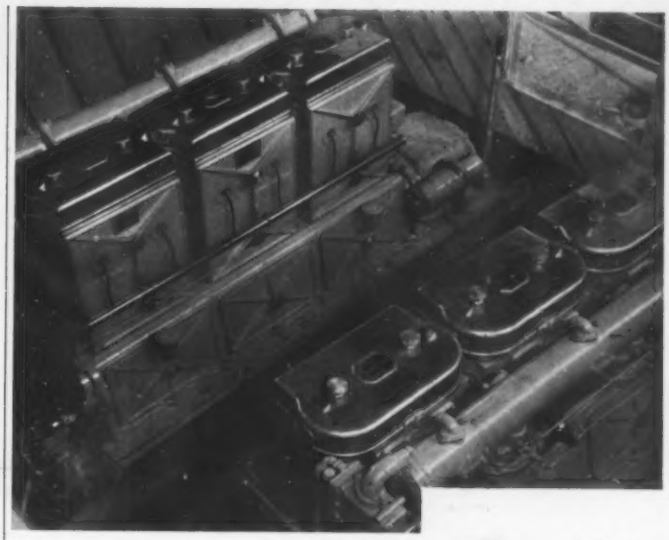
★ A completely new organization familiar with all departments of yacht work.

★ New business methods. New prices and a determination to earn your approval.

We earnestly solicit your patronage . . .

BELDEN POINT YACHT YARD Inc.

HARVEY E. HAUPTNER, *President*
173 Marine Street, City Island, N. Y. C.
Tel.: City Island 8-1500



"....We bought MURRAY & TREGURTHA engines before you were born"

That was the greeting our representative received from Britt Bros., ever-busy builders of quality boats at West Lynn, Mass., as they supervised the installation of a pair of Murray & Tregurtha M-6 gasoline engines in the 60 ft. cruiser this concern is now constructing for Mr. L. W. Sargent, of Wayland, Mass.

Britt Bros. have built for Mr. Sargent before; their workmanship warranted a re-order. Britt Bros. have bought Murray & Tregurtha engines before; they have never purchased such fine engines at such reasonable prices.

HAVE YOU CONSIDERED MURRAY & TREGURTHA ENGINES FOR YOUR BOAT?

Write for complete information regarding our gasoline engines or fuel-oil engines equipped with Shore carburetor-manifold system.

MURRAY & TREGURTHA INC.
NORTH QUINCY, MASS.
Distributor for New York District
F. BENJAMIN SEXTON, 125 Lafayette St., New York City

(*Right*) **LEICA In The Jungle** with Felix Schoedsack, R. K. O. photographer who uses the LEICA exclusively for stills. (*Below*) **LEICA Aerial View** by J. P. Gaty.

EVERY PHOTOGRAPHIC NEED SERVED BY ONE CAMERA

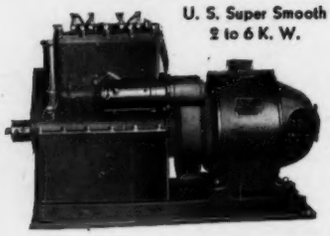
AUTOFOCAL CAMERA
Leica

Small, compact, versatile. 7 interchangeable lenses including telephoto, speed, wide angle lenses, and others; choice of nearly 300 accessories. **Built-In Short Base Range Finder** gives you correct focus instantly; no guesswork. **Focal Plane Shutter** with speeds up to 1/500th second. **36 pictures** from a single roll of cinema film. Sharp negatives; enlargements up to 12 x 18 inches or more. Price with 50mm. ELMAR f:3.5 lens, $92.50. Write for Free Illustrated Booklet, "Why LEICA?" also booklet describing new low-priced "STANDARD LEICA," at $66.00.

Weighs only 19 oz. Fits the Pocket.

E. LEITZ, INC. *Dept. 276*
60 East 10th Street, New York

Why not modernize lighting on your boat—at low cost—with a dependable



U. S. Super Smooth
2 to 6 K. W.

U. S. ELECTRIC LIGHT PLANT

THERE is no need to put up with the irritations of old kerosene lighting equipment — or a worn out light plant — when you can install, at the *present low prices*, a United States Super Smooth Electric Light Plant.

Here is unquestionably the highest type electric plant ever developed for marine engine use. Smooth running, due to unusual oversize, rigid crankshaft, and balanced weight distribution over entire sub-base that eliminates vibration; steady in performance; all parts easily accessible; and very economical. Take advantage of today's U. S. low prices — install a "U. S." and enjoy that delightful freedom from lighting troubles and worries that so many other boat owners are now experiencing.

Model "WS" 400 watt battery type plant. 12 and 32 volt capacities

U. S. FALCON MARINE ENGINES

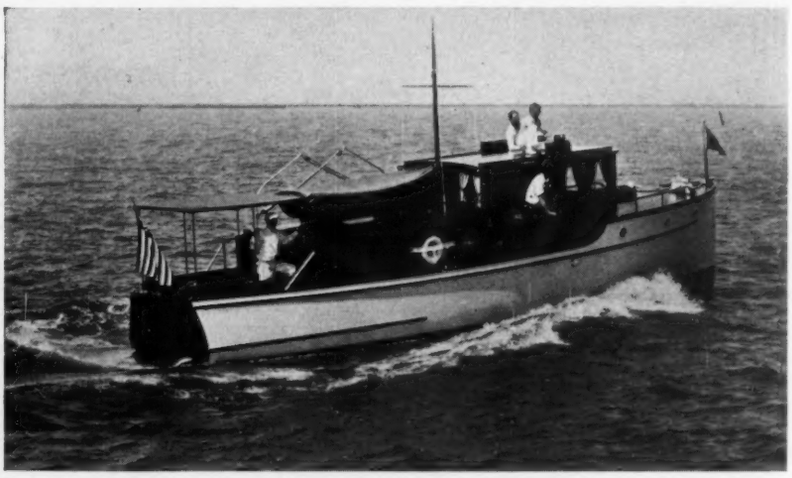
PROVEN in years of performance, these low priced engines are backed by the strongest guarantee on the market — your positive assurance of dependable operation. 1-2-4-6 cyl. 5-10-26-46-35-45-70-80-90 h.p. — medium or high speed.

Let us help you in selecting the most economical and satisfactory installation for your boat. Write us what you have in mind.

United States Motors Corp.
"PRODUCTS MUST GIVE SERVICE"
EST. 1900

OSHKOSH 102A Nebraska St. WISCONSIN

To add a finishing touch to yacht equipment, Ovington's offers individually marked table service



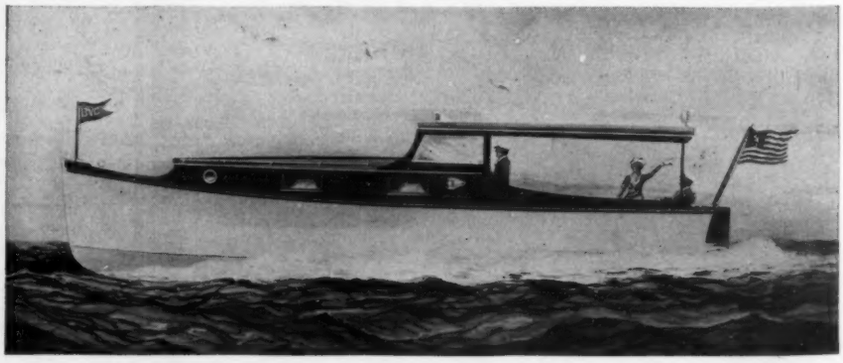
Designed and built on the West Coast by Stephens Brothers, this 43-foot cruiser is powered with a Scripps engine

The New 23-Footers Designed by Sparkman & Stephens

The *Gimcrack*, the first boat of this new 23-foot one-design class built by Henry B. Nevins, Inc., from designs by Sparkman & Stephens, has made a most favorable impression during the time she was available for demonstration under sail, and a number of yachtsmen placed tentative orders to build into the class.

However, in view of business uncertainties and the fact that it might be inadvisable to start the class with a small number of boats, it has been decided to discontinue all efforts in connection with the new class for 1933 with the idea of promoting the class for 1934.

The *Gimcrack* will be launched about April 1st and will be available for demonstration during the summer months.



The new Burger 34-foot cruiser, a 1933 model equipped with a Kermath-Farr engine

WHEELER "PLAYMATE"

CRUISERS
SEA SKIFFS
YACHTS

Three new models — 31 Ft. Standard, 38 Ft. Combination Sedan and 46 Ft. Diesel — about to head into the Atlantic Ocean for trials in February

IN each popular size you will find a Wheeler Playmate the leading value. Before purchasing elsewhere you should look into the details of what we are offering.

Get Literature: Visit Plant and see boats under construction. Arrange for demonstration.

Prices never lower — Very high values!

STANDARD CRUISERS

Delightful layouts, sizes 27′, 31′, 34′, 38′, 42′. Sensational new 46′ yacht, also 52′, 60′, and 70′.

DIESEL CRUISERS

We are successfully pioneering the Diesel pleasure boat field. See new 34′ for $5950. Also 38′ and 42′ models.

Have you seen new 46 footer, which cruises for 3c a mile? Also 52′, 60′, and 70′ yachts.

SEA SKIFFS

22 ft. — open	$1275
26 ft. — semi-shelter	1820
28 ft. — raised deck	2470
30 ft. — sport sedan	2660
34 ft. — sport fisherman	3450

In requesting literature, kindly advise as near as possible the size you are interested in, as we have separate catalogs on our various boats

WHEELER SHIPYARD, INC.

Foot of Cropsey Avenue, Brooklyn, N. Y.
Telephone MAyflower 9-7600

A Distinguished Necessity on *EVERY* Yacht

AECO

Electric Windlasses

a type for every yacht
cruiser, sailboat, auxiliary

WINDLASSES
SAIL HOISTS
DAVIT WINCHES

BOAT HOISTS
ANCHORS
STEERING GEARS

Ask your boat yard for particulars or write for literature

AMERICAN ENGINEERING CO.
2432 ARAMINGO AVENUE
PHILADELPHIA PENNSYLVANIA

NEW TOPPING TANK GAS STOVE

NEW LOW PRICE $50.00
(STOVE ONLY)

Size of Stove
20″ wide
22″ deep
39″ high over rail

Size of Cylinder
15″ diameter
20″ high

A four-burner stove complete with brass guard rail, oven, broiler and utensils compartment. Richly finished in durable white enamel. This stove is specially designed and insulated and constructed for rugged strength, economy of operation and safety. A burner consumes but two feet of gas an hour. The tank shown holds gas for approximately 272 burning hours.

The Standard Oil Company of New Jersey are the makers of the Hopane Gas. The cylinders and reducing valves are specially designed for boat use.

The safest, cleanest, most economical cooking gas stove we know about. Entirely sea-worthy equipment.

TOPPING BROTHERS
159 Varick Street New York City

CAN THEY TAKE IT?
Listen ! ! . . .

The new Matthews "38" Utility Boat, 38' 10" long, 11' beam, 3' draft, is only $3880.00 afloat Port Clinton.

Anytime, any place (where there is more than three feet of water) is boating time and place, if you are aboard a Matthews "38" or "46" Stock Cruiser. These big, husky boats are justly famous for their inherent ability in heavy weather.

And, of course, you will be utterly comfortable on board — the completeness of each model, from the instrument panel down to the soap dish in the toilet or built-in bread box in the galley, shows how thoughtfully each detail is worked out by Matthews.

For example, the Matthews "38" Twin Cabin Cruiser shown above will put to shame for comfort and completeness the present day four-room apartment — a stateroom for two with permanent beds, an additional cabin for four and, in between, the most complete galley and toilet imaginable.

And price only $5590.00, afloat Port Clinton — Think of it!

We'll gladly send you literature on this and other models upon your asking.

"38" STOCK CRUISERS MATTHEWS 46 "—since 1890"

***The* MATTHEWS CO.**
314 Bay Side Port Clinton, Ohio

"Wherever you cruise . . . you'll find a Matthews"

Write for our new folder on the

SPHERICAL COMPASS

giving complete information and many endorsements by owners and captains of all types and sizes of boats.

KELVIN-WHITE CO.

112 State Street Boston ▼ **38 Water Street New York**

A Northern Labrador Cruise

(Continued from page 90)

At quarter past five we rounded Black Rock Point and entered a beautiful bay full of islands which surround the entrance to Ekortiarsuk. So far as we could learn the only white voyagers to have entered this fiord were Iselin, on the schooner *Chance*, and Dr. Waugh, of New York. Iselin had given us an excellent sketch map which he made of the fiord and approaches, with a row of soundings to show the course through the islands. Ekortiarsuk Fiord is cross-shaped, the main fiord extending south into the mountains, and the two arms, east and west. Apparently neither arm had been explored, for both were shown on the map as stumps without ends. We had prints of two aerial photographs, which showed the east arm as a large, landlocked harbor extending almost out to the coast, with gently sloping shores and presumably affording good anchorage.

The remaining hours of daylight were too precious to waste. We therefore stopped in the lee of an island and sent Miller and Kennard ashore to climb a height and begin the northern triangulation. By means of the photographs, we designated a rendezvous on the shore, and then proceeded through the islands into the fiord and up its hitherto unexplored east arm. Towing a Magoun kite from the end of the bowsprit, we felt our way into an anchorage in a cove under a steep cliff on the south side, and just before sunset we anchored in four fathoms. The weather was so fine that we had high hopes of getting our radio messages through, but the block was as complete as ever. Two reasons offered; the cliff south of our anchorage rose high above us close to the shore, and lay directly between us and Hartford; the aurora gave us the most brilliant display I have ever seen, and this is notoriously unfriendly to radio communication. Next morning we moved the *Ramah* across to the north shore of the east arm, where we had better shelter from west winds and were farther from the steep cliff, but still the radio failed us till August 14th, when Brooks succeeded in sending most of our messages to an amateur in Lenox, Mass.

(To be Concluded)

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Yachting Notes and Comment

(Continued from page 24)

NOTE 3

The yacht to be re-measured for flotation at two-yearly periods, unless alterations have been made to the hull or ballast, after which she would require to be passed by the measurer.

The measurer may take the weight of hull, spars and outfit, as found by weighing on an authorized weighing machine. Alternatively, he may calculate the displacement from drawings supplied by the builder, having first ascertained by full-size sections that the hull conforms to the plans.

During a race, the yacht without crew, but with her prescribed equipment on board, shall not lie deeper than the lower tips of the freeboard marks.

SCANTLINGS

(The committee is now asking the designers to check a proposed table of scantlings.)

\+ + +

In framing these proposed regulations and restrictions for the class, it is understood that the Y. R. A. Committee's main objective was economy, and that, consequently, every consideration was given, when framing the rules, to the special points which might tend to induce prospective owners to place their orders with the less experienced designers and small builders.

A careful study of the proposed rules has, however, led me to the conclusion that the method adopted by the committee for the attainment of this end is very far from being the best.

When Plank Ends Splinter

—work Plastic Wood into the cracks with a putty knife. If splintered portions have broken away and become rotten, cut away rot leaving edges rough. Put on a layer of Plastic Wood thick on inside, thin on outside edge. Let it dry. Repeat this process until inside edge of opening is almost closed. Then fill in remaining portion. When dry plane down. This repair will hold fastenings and is permanent. Buy Plastic Wood from any ship chandler, paint or hardware store. Thousands of uses around a boat.

PLASTIC WOOD

Handles like Putty... Hardens into Wood

A BIG BOAT FOR ITS SIZE!

Old Town Dinghies are small enough to stow neatly in little space. But they certainly will carry a load. Here's an ideal ship-to-shore boat for the yacht or launch. You'll never talk of calking an Old Town. Solid, wood hull is covered with non-leak canvas. Weather can't warp it . . . even sun and salt air won't faze it. The stern is cut to take an outboard motor . . . is reinforced to hold the load.

Send for a free catalog that shows the models and sizes and prices. It also shows outboard boats, including big, fast, seaworthy all-wood types for family use; rowboats and canoes. Write today! Old Town Canoe Co., 494 Main St., Old Town, Maine.

★ *"Old Town Boats"* ★

TRUE HELICAL PITCH

COLUMBIAN BRONZE *Propellers*

Write for complete information

We specialize in changing and reconditioning propellers

COLUMBIAN BRONZE CORP.

236 North Main St. Freeport, L. I., N. Y.

Fitting out the yacht should be seriously considered.

Many yachts should go into the water for their own good; the under body in many cases is drying out badly.

Many yachts have changed hands and will be back in commission.

You can fit out and operate at much less cost this year than in former years.

Our rates have been reduced

PEIRCE & KILBURN, INC.

New Bedford, Mass.

CONEWAGO

EIGHT-METRE BOAT—WINNER OF CANADA'S CUP

The Canada's Cup, Seawanhaka Cup and British-American Six-Metre Trophy were all won with the aid of parachute spinnakers of our make.

Ratsey & Lapthorn, Inc.

Sailmakers Established 1790

Telephone: City Island 8-1012 **City Island, New York City**

GROUND GEARS in PALMER CLUTCHES

This great improvement, an exclusively Palmer Feature, is more than a refinement . . . it is a real economic advantage as well. These gears are silent because of hardness of the metal and the smoothness of precision grinding reduce wear. The fact that Hardened and Ground Gears wear less means longer life for the clutch. Palmer, for 38 years, has adapted each and every proven advancement in design and construction . . . to produce the BEST POSSIBLE MARINE ENGINE.

PALMER BROS. ENGINES, Inc.

4 Hathaway Road, Cos Cob, Conn.

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